Occupational HAZARDS

THERE'S PROFIT IN PREVENTION

JULY
1947

•

ROUTE TO
YOUR PLANT
RE PROTECTION
IEN: FEATURE
SECTION ON
RE PROTECTION
FOR INDUSTRY

•

THIS NATIONAL MAGAZINE COMES TO YOU WITH THE COMPLIMENTS OF

THE ELWOOD COMPANY

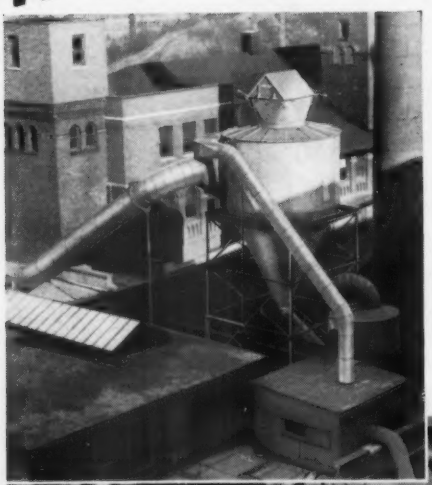
RUBBER PRODUCTS AND SAFETY EQUIPMENT

40 WEST SENECA STREET BUFFALO 2, N.Y.

©C18 88350

A New NOTE in Dust Control...

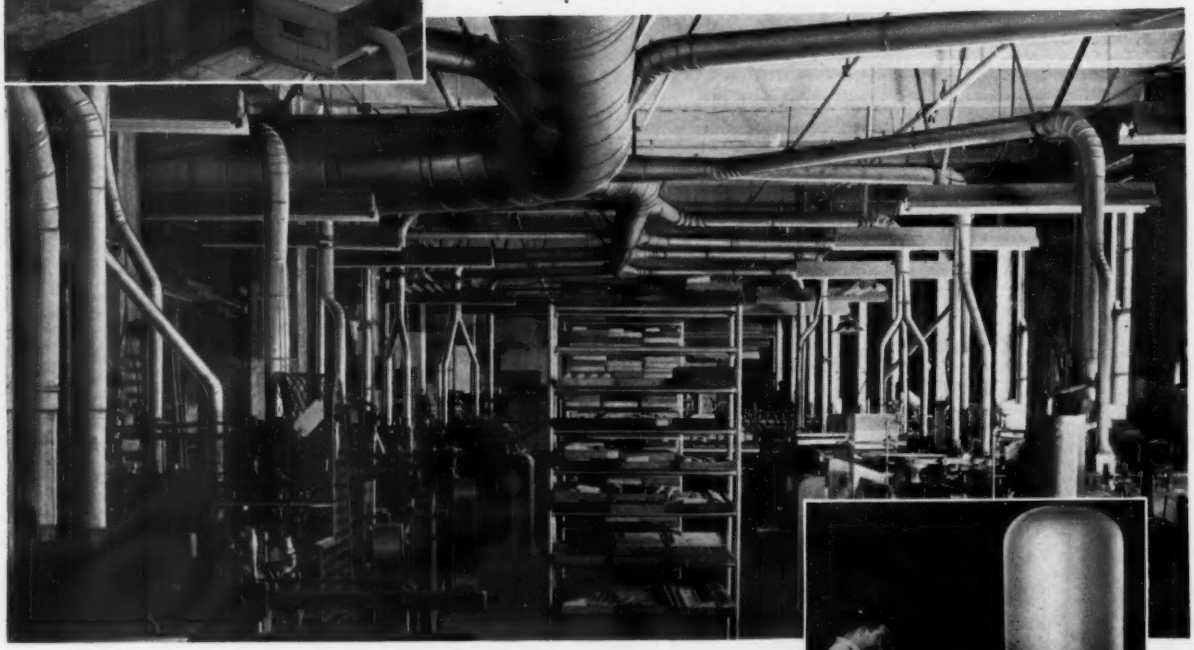
The BALDWIN COMPANY INSTALLS KIRK & BLUM CENTRALIZED SYSTEMS & NEW SELF-CONTAINED DUST CONTROL UNIT . . .



● The ability of Kirk and Blum to engineer the correct system for every type of operation is demonstrated at the famous Baldwin Piano Plant in Cincinnati. The large illustration shows concentration of wood planing, sawing and sanding machines served by a centralized K & B Control System.

● In the small view is illustrated the new Kirk & Blum Self-Contained Dust Control Unit. These new units eliminate the need for long, costly piping runs to remote areas of a plant where only one or a few machines are located. These new Unit Collectors can be set up anywhere, serving from one to four machines.

● This interesting K & B installation may suggest the solution to a dust condition in your plant. Kirk & Blum Engineers will gladly survey your operations without obligation.



Here in the Baldwin Company's famous "action" department, the ultimate in precision wood-working is done. Kirk & Blum also designed and installed the expanded metal and sheet steel machine guards in this widely-known piano manufacturing plant.

This new Self-Contained unit (right) is entirely different and more efficient than small conventional units . . . has an air volume of 900 CFM at 2 in. suction with capacity for four 3 in., two 4 in. or one 6 in. pipe connection.

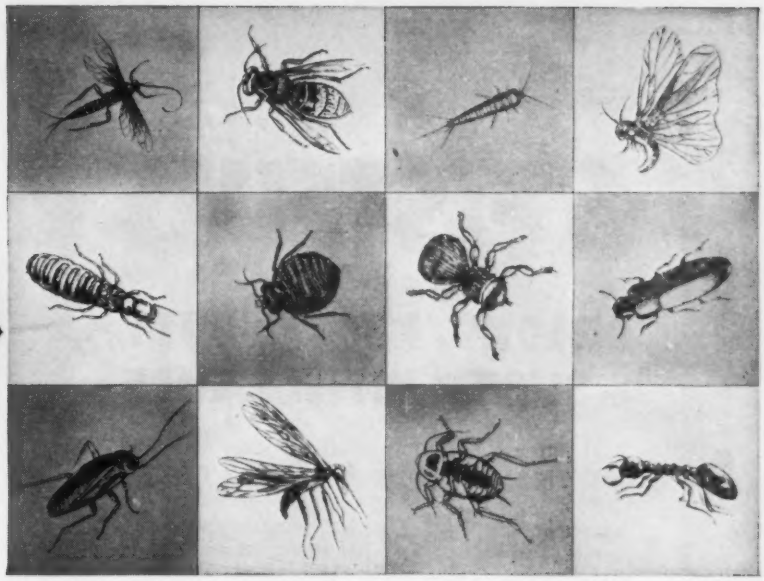
Write for catalog "Blower Systems for Woodworking Plants" and our new booklet on the Self-Contained Dust Collector.

KIRK AND BLUM
DUST CONTROL

THE KIRK & BLUM MANUFACTURING CO.,
2802 SPRING GROVE AVE., CINCINNATI 25, OHIO

AN ORGANIZATION OF ENGINEERS & MECHANICS

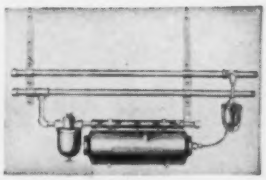
PICK the PESTS



...you'd like to give the "AIR" Forever!

Do your special insect pests crawl or fly? Thrive on Food or Fabric? Run rampant in a midget-sized cubicle or nest in the hard-to-reach places of a tremendous factory? Get rid of them with the West Atomizer —an effective scientific method of insect control. Designed to eliminate all pests *wholesale* with a fast "positive-kill."

A permanent installation which shortly pays for itself in time and labor saved (plus the tremendous advantage of complete coverage) the West Atomizer is perfected for efficient and effective use with compressed air. Just turn on the air valve and it *shoots out* a deadly fog of insecticide which reaches into the tiniest cracks and crevices. *Does its lethal magic as quickly in a mile-long plant as in a small store room.* Dispenses a "dry" mist so it won't wet floors, walls, or product if used as directed.



With the West Atomizer, use Vaposector Fluid—one of West's complete line of effective insecticides, specially prepared to help lick your insect problem. Vaposector is a concentrated, odorless insecticide—and is safe to use.

Why not consult one of over 475 trained West representatives at once?

Products That Promote Sanitation

42-16 West Street, Long Island City 1, New York, N. Y.

BRANCHES IN PRINCIPAL CITIES OF UNITED STATES AND CANADA

CLEANSING DISINFECTANTS • INSECTICIDES • KOTEX VENDING MACHINES
PAPER TOWELS • AUTOMATIC DEODORIZING APPLIANCES • LIQUID SOAPS

6 FISTFULS

OF LONG, RUGGED DUTY in GLOVES, MITTENS, PADS

Steel staple stitching at points of wear and tear make these AO Gloves, Mittens and Pads of chrome-tanned cowhide a sound investment in materials handling. They are flexible and comfortable to wear while protecting hands from rough stock. These highly serviceable products are part of a complete line of AO steel-stapled gloves and hand pads designed for specific jobs. Your nearest AO Safety Representative can supply you.

AO 1644 GLOVE — Extended glove life is due to steel-stapling of palm and fingers over reinforcing leather strips and steel-stapled leather patch on thumb. Also all seams on face of glove steel sewed. 4" gauntlet. For handling heavy castings, rough scrap in foundries, steel mills.

AO 1674 REVERSIBLE MITTEN — Double the wear because it may be worn on either hand. All seams *steel* sewed — to provide the strength to withstand the rough steel stock this hard-working mitten handles.

AO 1201 HAND PAD—Open back — fully protected thumb. Like the glove and mitten, the hand pad is made of top grade chrome-tanned cowhide. Reinforced with leather palm patch steel-stapled to palm.

Safety Division

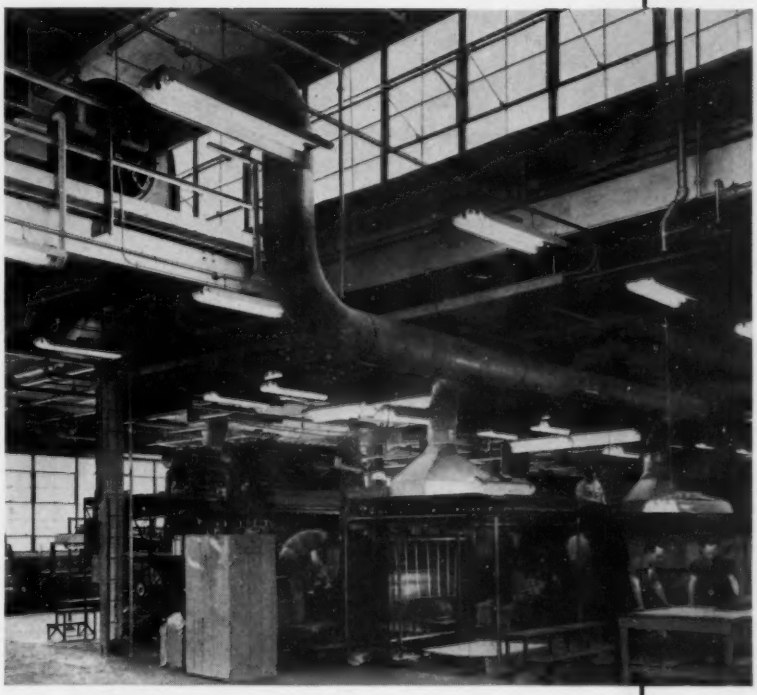
American Optical COMPANY

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

ROTO-CLONE

cleans up a press room problem

THESE modern high speed offset printing presses turn out thousands of impressions per hour. To speed the drying of the finished work and prevent adhesion between sheets, each printed sheet is automatically given a shot of "offset spray" as it comes off the press.



This operation creates a certain amount of excess spray. If allowed to permeate the atmosphere, it creates an undesirable working condition, increases maintenance and results in costly soilage of finished work.

Installation of an AAF Type W Roto-Clone unit has eliminated all these difficulties. Excess spray is collected at point of application and conveyed to the Roto-Clone. The Roto-Clone separates the offset spray from the air and the collected material is automatically disposed of while the cleaned air is returned to the work room. Mounting of Roto-Clone on overhead balcony frees valuable floor space and removes air cleaning operation from working area.

Wherever there is dust—press room, machine shop, foundry, lime kiln—the Roto-Clone is successfully meeting the requirements of effective dust control. You will probably find the solution to your particular dust problem described in Bulletin No. 270-A. Write for it today.

AMERICAN AIR FILTER COMPANY, INC.
366 Central Ave., Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF

ROTO-CLONE
DUST CONTROL EQUIPMENT

EYE HAZARD SIGNS

NOTICE
ALL PERSONS WORKING IN THIS DEPARTMENT — MUST — WEAR GOGGLES
SAVE YOUR EYES WEAR GOGGLES
SAFETY FIRST
WEAR GOGGLES OR USE SHIELD
DANGER
WEAR GOGGLES WHEN CHIPPING OR GRINDING
CAUTION
WEAR GOGGLES WHEN USING THIS MACHINE

You'd think men would be most careful to safeguard a priceless possession . . . their sight.

Yet they take chances with their eyes . . . neglect to wear goggles on hazardous jobs or risk loss of sight in other ways.

STONEHOUSE SIGNS

FOR ACCIDENT PREVENTION

Drive Home the Warning . . .

"SAVE YOUR EYES"

In Stonehouse Catalog No. 8 there are many Eye Hazard signs. It's Free on request.

Stonehouse SIGNS, INC.
MANUFACTURERS

"SIGNS SINCE 1863" 842 LARIMER ST. DENVER 4, COLO.

ACCIDENT PREVENTION SIGNS IN STANDARD COLORS AND DESIGNS

ACID-RESISTANT

Acitex resists caustics, splashing liquids and the most injurious acids—such as nitric, sulphuric, hydrochloric, acetic, hydrofluoric, carbolic.

COMFORTABLE

Acitex aprons and sleeves are lightweight—cool and comfortable to wear. Easily adjusted *Acitex* straps for attractive fit on every wearer.

EXTREMELY TOUGH

Acitex wears like iron. It's highly resistant to abrasion. No metal parts; electronically welded seams and double-thick *Acitex* grommets.

ECONOMICAL

The moderate cost of *Acitex* aprons and sleeves plus durability add up to real economy. That doesn't begin to include savings in accident costs.

PREFERRED ON ALL COUNTS . . .

CESCO'S IMPROVED *Acitex* APRONS AND SLEEVES

• Now you can get protective aprons and sleeves made of CESCO's famous *Acitex!*

Here's more effective resistance to a greater number of acids, caustics and splashing liquids than provided by any other material having equal flexibility and toughness.

Acitex excels in toughness—and electronically welded grommets and seams are equally strong. *Acitex* is lightweight and cool-feeling. And, *Acitex* aprons and sleeves are economical—priced moderately and of durable quality for long service.

Speaking of versatility—CESCO's *Acitex* aprons and sleeves have a wider range of uses than others because of *Acitex'* superior and exclusive features.

SCIENTIFICALLY TESTED . . . PROVED IN USE

• CESCO's *Acitex* has long been used successfully for protective hoods. Research and severe laboratory testing proved its usefulness as apron and sleeve material. On-the-job tests proved its adaptability and value.

All this assures you of getting the best when you specify CESCO *Acitex* aprons and sleeves. For full information . . . call, write or wire. . . .

CHICAGO EYE SHIELD COMPANY
2308 Warren Boulevard • Chicago 12, Illinois

CESCO **CESCO FOR SAFETY**

THE *Finnell* MOTOR-WEIGHTED MACHINE GIVES YOU

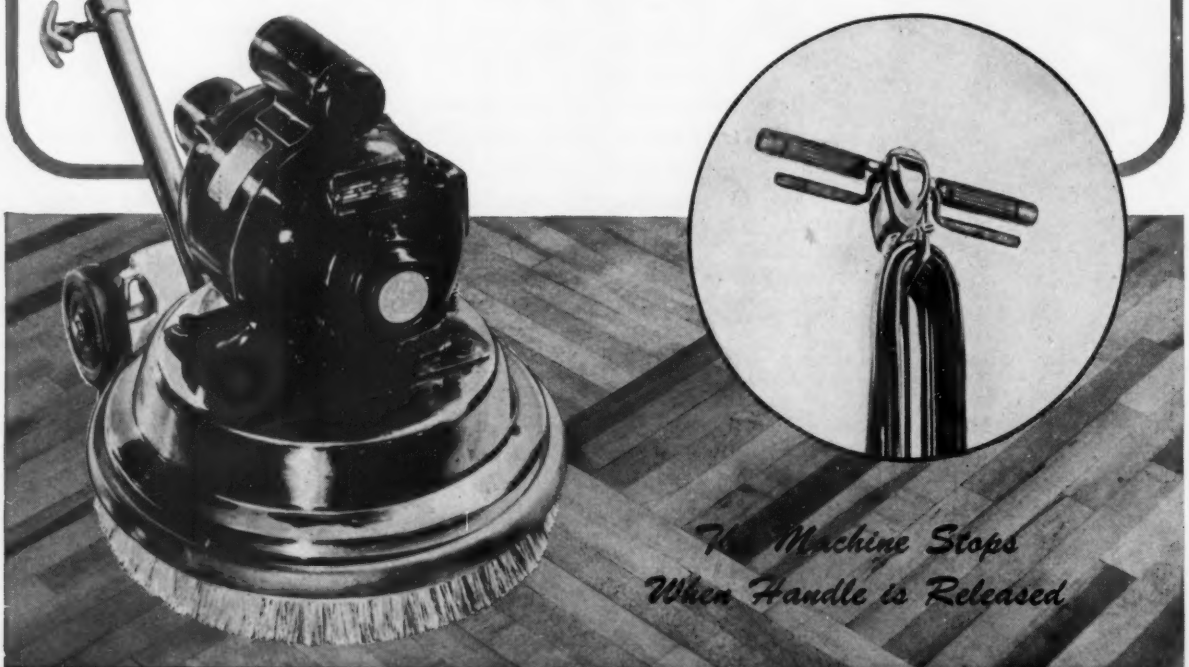
A COMPLETE *Automatic Switch Control*

That's because the *Feather-Touch* Safety Switch on the *Finnell* Motor-Weighted Floor-Maintenance Machine operates on *both* sides of the handle. In other words, the switch works with either hand from either side of the handle! The moment the operator releases his grasp, the switch automatically disengages and the machine stops. *Feather-Touch* characterizes the ease with which the switch is held to 'on' position.

This *600 Series Finnell* is self-propelled . . . glides over the floor with virtually the effortless guidance of the operator. Horizontally-mounted motor and correct distribution of weight, affording truly balanced operation, also contribute to the greater handling ease of the *Finnell* Motor-Weighted Machine. Mounts a G. E. Drip-Proof Capacitor Motor . . . is equipped with Timken Bearings. And the ruggedly constructed worm drive, housed in an extra-capacity leak-proof gear case that is lubricated for 2500 hours, assures smooth, noiseless performance. Rubber handle grips are perfectly insulated. A precision product throughout, reflecting *Finnell's* four decades of specialized experience in the manufacture of floor-maintenance equipment.

The 600 Series Finnell is adaptable to scrubbing, waxing, polishing, steel-wooling, sanding, and grinding. Four sizes from which to choose: 11, 15, 18, and 21-inch brush diameter.

For consultation or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 3507 East Street, Elkhart, Indiana. Canadian Office: Ottawa, Ontario.



FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

Occupational HAZARDS

VOLUME 9 • No. 9

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CONTENTS FOR JULY 1947

COVER: A bit overdressed for July weather, but reasonably safe from skin and respiratory hazards is this metallizer spraying a .012 in. coat of non-corrosive molten aluminum on structural members for new railroad cars. The metallizing unit, suspended from a trolley with a flexible spring and chain, liquefies the wire-fed aluminum wire in the gun nozzle with an oxy-acetylene flame and sprays it by means of compressed air. The operator is furnished with a supplied-air, wide-vision mask and protective clothing resisting the fine, hot, metal particle spray.
(Photo Courtesy Nooter Boiler Works, St. Louis)

"THERE'S PROFIT IN PREVENTION"

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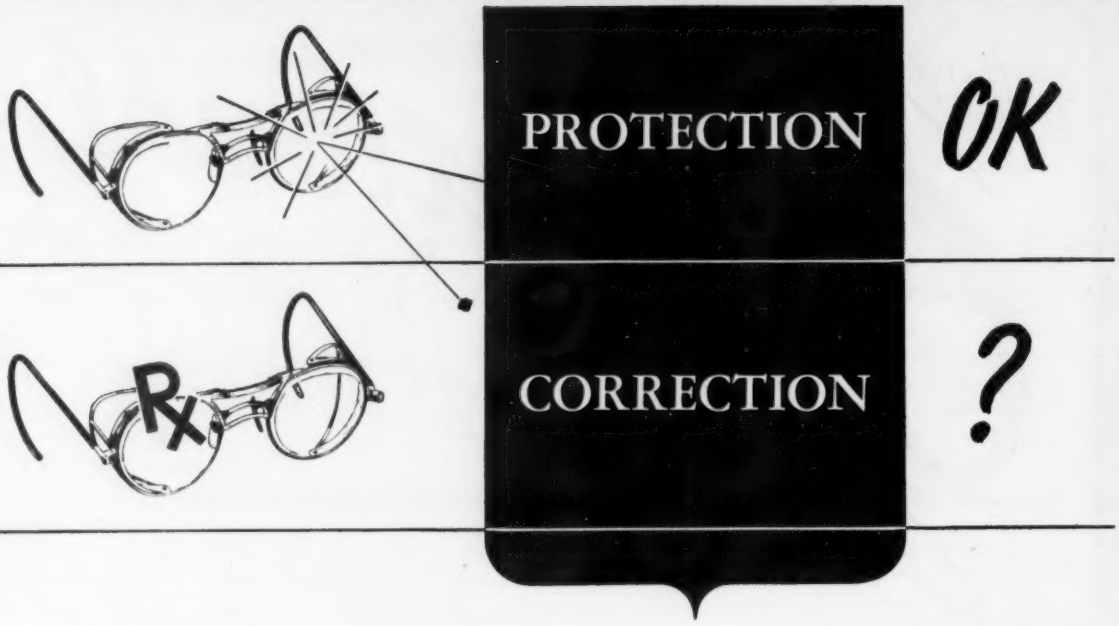
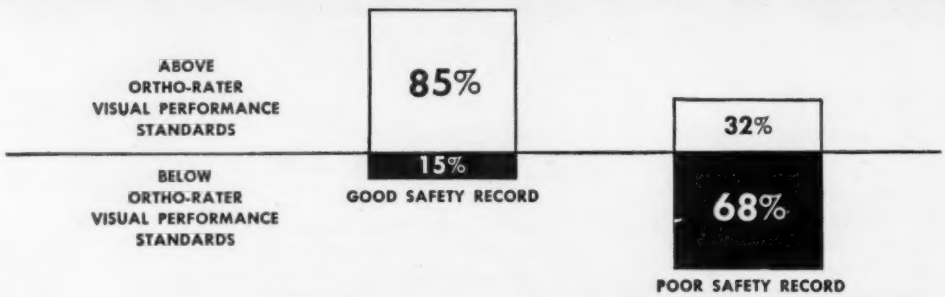


EYE SAFETY IS A TWO POINT PROGRAM

• A complete eye safety program requires more than eye protection. At least half of all industrial workers need visual correction if they are to see clearly. Industrial eyewear, incorporating correction professionally prescribed for the requirements of every job, is safety eyewear in two ways. It provides protection against injury to the eyes, and it provides clear vision that makes for working safety—and efficiency. Your Bausch & Lomb distributor offers prescription service on a wide range of types of Bausch & Lomb industrial eyewear.

SAFETY FACT-FINDING CASE HISTORY...



The Bausch & Lomb Industrial Vision Service, through the Ortho-Rater system of visual performance measurement, offers fact-finding as a basis for visual standards. The chart above shows how, in one department, accident-prone workers are identified on the basis of visual performance alone. Improved safety records, plus increased production, improved quality, reduced labor turnover, and lowered training costs are some of the results enjoyed by subscribers to the Bausch & Lomb Industrial Vision Service.

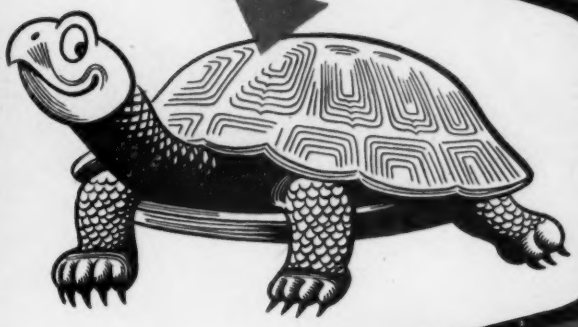
Write for this descriptive bulletin A-591.

BAUSCH & LOMB

OPTICAL COMPANY ROCHESTER 2, N.Y.

HY-TEST *Safety Shoes*

PROTECTION



WHERE NEEDED

H-711—Men's Brown Glove Moccasin Oxford, Leather Sole, Half Rubber Heel. **Delivery at once.**

..Insure Workers Feet In Sure Protection

ANCHOR FLANGE STEEL BOX TOE

This flange adds extra strength to the steel arch's sidewall. Anchored between insole and outsole, it also serves to resist shifting and tilting when toe is struck at an angle.

Nature wisely provides the slow-moving turtle with a life-protecting shell. And just as wisely, the makers of Hy-Test Safety Shoes provide a shell of steel in Hy-Test Shoes to give *protection where needed.* This Anchor-Flange Steel Box Toe defies falling objects and other toe-injuring hazards. It is scientifically arched to take the blows... specially anchored to hold firm without shifting or tilting. This sturdy shell of steel is so smoothly patterned into Hy-Test's trim, neat lines you hardly know it's there.

Yet, like other outstanding features, it helps distinguish these shoes to make them preferred by more workers than any other safety shoe in America. Husky, pliant leathers, *Slant-eze* tops for ankle freedom, and quality workmanship throughout assure longer wear, extra comfort, and neat appearance in the safety shoe that gives *protection where needed.* Would you like to know how Hy-Test's plan can bring these shoes to workers in your plant? Just drop us a line.

HY-TEST SAFETY SHOES

HY-TEST *Safety Shoes*

THE WORLD'S LARGEST SELLING SAFETY SHOE

HY-TEST DIVISION • INTERNATIONAL SHOE COMPANY • ST. LOUIS 3, MO.

EASTERN OFFICE • MANCHESTER, N. H.

GRAIN LEATHER INSOLE
Smooth, sanded grain leather provides perspiration-resistant, comfortable innersole.
STEEL SHANK
Provides flexibility and sturdy arch support.
SOLE LEATHER COUNTER
Maintains shape of shoe and provides essential protection for back of foot
GOODYEAR WELT
For maximum wear and flexibility, used in the best grades of men's dress shoes.
BLACK KIP BLUCHER
Good looking with rugged long-wearing qualities.
LEATHER SOLE
Chrotan leather outsole—special tannage, finer quality leather, exceptionally tough and long-wearing.
Lockrim* STEEL TOE BOX
High carbon, cold rolled steel, Austempered for added strength. Withstands heavy impact. Patented Lockrim* eliminates sharp edges that might cut down into sole, and locks toe box securely in place for life of shoe. No other safety shoe has the Lockrim* toe box.
HALF RUBBER HEEL
LEATHER BASE
PAT. N. REG

new! FOREMAN'S OXFORD

MEDIUM LAST • **STOCK NO. 1506** • SIZES 5 to 12 • WIDTHS C, D, and E

No need to sacrifice comfort and smart appearance for safety's sake. Lehigh has combined all three in this new foreman's oxford...built with the famous ***Lockrim**** STEEL TOE BOX, exclusive in Lehighs. No seams where the foot bends! Side seam pulled well back to give free play over big toe and small toe joints—eliminates chafing and irritation at these points. And plenty of other quality Lehigh features give you a big dollar in safety shoe value. It's a long-wearing, hard worker, smart enough for the executive and foreman to wear in the plant and out. Send for samples and prices or wire, phone or write to have our representative call.

MAGICIAN TO INDUSTRY

FREE—Send for a copy of this astonishing booklet telling how Mr. Clyde R. Powell has helped reduce accident rates up to 50%. Mr. Powell, nationally famous lecturer and accomplished hypnotist is available FREE for your safety meetings. Write for available dates.

LEHIGH Division of the ENDICOTT JOHNSON CORPORATION
SAFETY SHOE COMPANY
ALLENTOWN, PA.
WESTERN OFFICE: 12th AND SPRUCE, ST. LOUIS 2, MO.

PRESS-PROOFED *Prevention*

CULLED FROM THE NATION'S PRESS

TOO LATE TO PREVENT THESE ACCIDENTS, BUT—

Resumes of these industrial accidents were gleaned from actual newspaper reports. Preventitive measures and suggested safe practices are recommended here to help you prevent similar mishaps at your plant. Clip and post on your safety bulletin board.

Utica, N. Y., Press:

Robert Pilenza, 34, suffered serious injuries in an explosion involving a gas oven in the Foster Brothers Manufacturing Company plant, 807 Broad Street. Pilenza, an assistant foreman in charge of maintenance, was working on the oven which employees had been unable to light.

Prevention:

At the first indication of a faulty gas oven, or any other type gas equipment, the supply of gas should be turned off and all windows and doors opened to thoroughly ventilate the room, which might be full of escaped gas. This should be done prior to any attempts being made to experiment with the faulty equipment. In addition, service departments of the utility company should be consulted before repair work is done.

Stamford, Conn., Advocate:

Mrs. Frances Piorkowski of Cos Cob brushed against a soldering pot while wiping off a bench at the Electrolux Corporation plant here. Her dress immediately caught fire and she was badly burned before the fire was extinguished.

Prevention:

Women employees working anywhere in a plant where there is danger of clothing being set afire should be made to wear light, fireproofed, protective aprons or coveralls which are on the market for this purpose. They should be discouraged to wear thin, frilly or lacy clothing while at work. Laundries now have a fireproofing service for industrial clothing. Hazards such as soldering pots should also have heat screens.

Roanoke, Va., World-News:

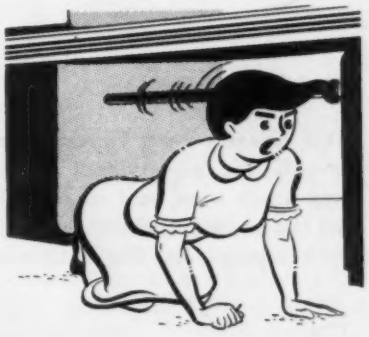
Joseph Daniel Adams, 19-year-old war veteran, Garden City, Va., died in Roanoke Hospital after suffering head injuries and amputation of both legs. Adams, an oiler and machine-tender at Roanoke City Mills, became entangled in a spiral conveyor when his foot broke through the wooden housing of the conveyor which ran along the floor against a wall.

Prevention:

Spiral conveyor troughs should be made of steel and completely covered with hinged sections of the same metal. These cover plates should be periodically tested to check thickness of the plate. Double protection: a second cover made of heavy wire mesh placed under the solid top cover. This screen permits inspection while still guarding the screw.

Boston, Mass., Evening Globe:

Mrs. Ruth Smith, 36, Roxbury, Mass., suffered severe head injuries and lost part of her scalp when her hair caught in a stitch-lock machine at the Bancroft Cap Company, 641 Atlantic Ave. On the job for only two days, Mrs. Smith stooped underneath the machine to retrieve a dropped bobbin when her hair was caught in the machine's shaft.

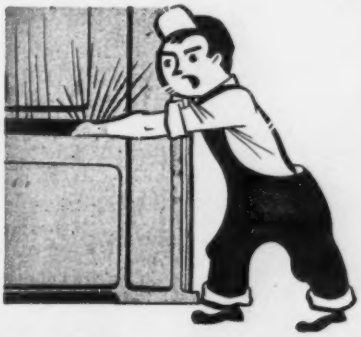


Prevention:

Where girls and women are employed around moving machinery and power-driven equipment, hair nets or light caps should be worn. New employees should be told of the danger of getting hair entangled in moving machine parts as soon as they report on the job.

Erie, Pa., Dispatch-Herald:

Nunzio Lamendola, 58, Corry, Pa., was struck in the left eye by a piece of steel while he was operating a steam forging hammer. Given emergency treatment at the Corry McInner Steel Company, Lamendola was sent to Erie where a doctor removed the eye.



Prevention:

The manufacturers of glass eyes are doing a fine business these days because proper type goggles are not worn at every job which might be hazardous to eye safety. Screens or shields against flying objects should also be installed to protect adjacent workmen or visitors in the department.

OWENS-ILLINOIS GLASS

Magnifies Safety

What's Behind The Successful Safety Campaigns in Both Large and Small Plants?

This month's Plant Picture Story reveals the promotional activities which were held responsible for the unusual success of a safety campaign at Owens-Illinois.

OVER 22,000 employees of the widespread Owens-Illinois Glass Company recently completed 3,568,086 manhours of exposure in 28 production plants with but a single lost-time accident. That's a success story measured by a frequency rate of .28 and a 0.1 severity rate! This unusual safety record was the result of a "No Accident Month" campaign which was fired by many new and ingenious promotional activities. The results were so gratifying that both management and employees of Owens-Illinois have resolved to continue the campaign for as long as possible.

The "No Accident Month" campaign was started by sending out word from the general offices in Toledo, Ohio to all plant managers, personnel directors and safety directors, informing them that September would be designated as the "No Accident Month" and that promotional materials would be sent out to be put on bulletin boards and for distribution to the workers.

These materials consisted of a "No Accident Month" button which was given to every person at each plant, and four posters which were to be put on the bulletin boards at three day intervals. The first poster had a big hand on it saying, "Stop! What's Coming?" The next one showed a pair of eyes and said, "Look! Watch September!" and the third with a pair of ears was marked, "Listen! Let's Have No Accidents in September!"

Novel Ideas

Though all 28 plants used the basic posters and buttons furnished by the central office, many of them used novel approaches to put across the idea of safety to their employees. These promotional devices ranged from signs of billboard proportions

Specially posed pictures of near accidents are posted on bulletin boards to stress safe working procedures.

Signs along entrance drive remind employees to wear safety badge and observe safety rules.

down to safety calling cards. Most plants used at least one large sign to get their members safety minded.

The Bridgeton plant set up a "Safety Derby" with small wooden horses representing its various departments. These horses "ran" on an eight foot long track that was divided into lengths and the steeds moved a length every three days, providing no doctor's cases or lost-time accidents occurred. A doctor's case penalized the horse representing the department that had the injury six lengths and a lost-time accident would have cost the unhappy animal 12 lengths. This safety race was originally set up for a two-month duration.

The Libbey plant stimulated inter-department competition by using a large wooden linked chain, with each link representing a department. An injury classified as lost-time would have broken the chain.

Several Owens-Illinois plants used the enlarged calendar idea, with each accident-free day marked off, but the Huntington plant added human interest by having its calendar held by a sign board character named "Owen Izer" whose movable arm and hand pointed to each particular day. A message on the sign said, "Make this a safe day." The Dorwood plant had a calendar in each department and each safe day was marked off by pasting a green sticker over the date.

The Bridgeton plant gave its poster layout a local slant by taking especially posed pictures of near accidents. These pictures were mounted on cardboard signs that explained briefly the violation in safe working procedure. These signs were in color and run off by the silk screen process.

Using the Time Clock

The Fairmont plant was outstanding in keeping the safety theme constantly before its people through the use of clock cards with "No Accident Month" printed in red in a red circle. One hundred facsimilies of the "No Accident Month" buttons, about a foot square, were posted throughout the plant in places least expected.

Several of the plants personalized the safety publicity by having calling card-size reminders with the name of each plant member inscribed. The safety buttons were pinned through the cards and distributed via the time card rack. If these cards or buttons were thrown away, a follow up could then be made to talk to those persons who seemingly were uninterested in the safety program.

The Dorwood plant followed through from the personal standpoint by having the message "Safety starts with you," imprinted on its food service paper napkins.

Special Contests

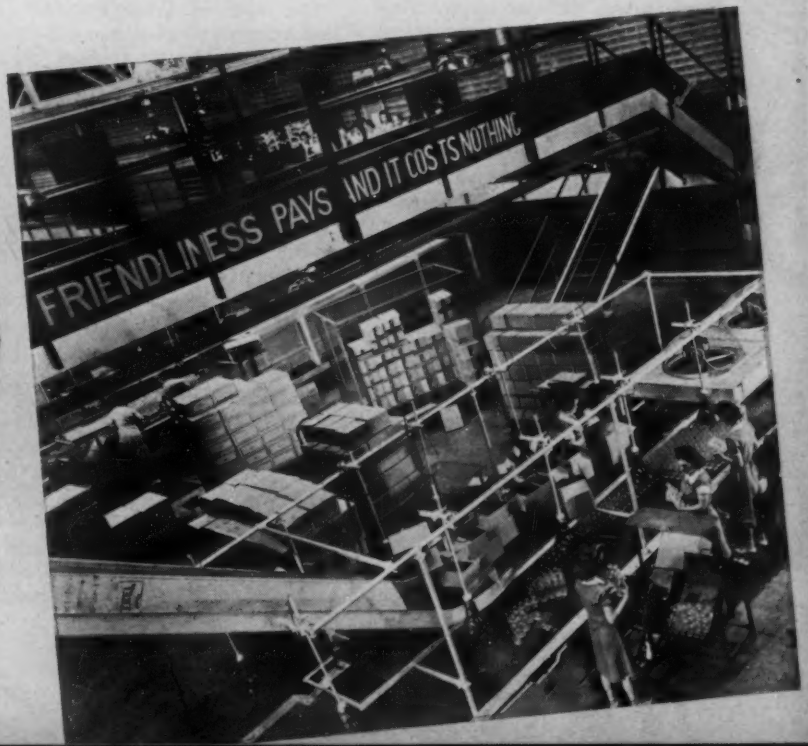
In some of the factories, suggestions that dealt with safety were stimulated by doubling the suggestion award for this type new idea. Contests varying from safety limericks to sets of safety rules directed employee thinking toward accident prevention. Word of mouth promotion by supervisors, foremen and plant people helped to keep the subject a current topic, as did short meetings and personal contact by safety directors.

Establish Safety Marks

Both management and employees of Owens-Illinois are proud of the results of their "No Accident Month" safety campaign. A record 10 times better than any previous mark was established! Earlier months had averaged about 12 lost-time accidents. Never before was a low of one lost-time accident reached. The results of the campaign were immediate and gratifying. The promotion was held largely responsible for this success and all plants have resolved to continue the campaign for as long as possible.

This sign board character points to each day and urges employees to make it a safe one.

Owens-Illinois people are proud of their safety record and are anxious to keep it that way.



from MANAGEMENT'S POINT OF VIEW

THE PURCHASING AGENT AND PLANT SAFETY

By ANDREW H. PHELPS
Vice President in Charge of Purchasing
Westinghouse Electric Corporation

PRODUCT CLASSIFICATION		
Tested and Approved	Untested but Manufactured to Standards	No Standards No Tests
Gas Masks	Drinking Fountains	Hand Soaps
Fire Extinguishers	Gloves	Hand Creams
Safety Cans	Aprons	Degreasing Solvents
Respirators	Goggles	Cutting Oils
Sprinkler Systems		Paints

"PURCHASING" is buying the right kinds of materials at the right prices and having them delivered at the right time. The part of this definition that is particularly relevent to the maintenance of a healthful and safe workplace is the first section, which has to do with purchasing the right kind, which means the right quality as well. Not only does the purchasing agent have to know what is required but he has to establish means of knowing that what he has bought conforms with his requirements and specifications.

The purchasing function is a complex one, particularly with regard to the determination of what to buy. In a large company like Westinghouse with considerable specialization, many individuals must be consulted and their points of view reconciled. For example, the determination of our exact requirements are to a large extent the function of the Engineering Department, which includes the Engineering Laboratories and Standards Department in our Headquarters Engineering Group. In addition, with respect to purchased products having to do with the health and safety of workers, our Industrial Hygiene Department, our Medical Department and our Supervisor of Safety are all quite properly concerned and consulted.

In a smaller company, however, you are quite likely to find that the individual who does the purchasing also passes judgement upon a number of other factors relating to the kind and quantity of goods purchased. He must act as his own lawyer and his own engineer and it is, therefore, important that he be competent to perform these functions satisfactorily enough to avoid making serious and embarrassing purchasing errors. In a small plant the Purchasing Agent will avail himself of any specialized talent that is available to him, particularly when purchasing material or equipment that may affect the safety or health of the workman.

Meeting Legal Requirements

We come then to the question of what is the place of the Purchasing Department in maintaining a healthful workplace. It seems to me that the immediate objective to be reached is that all legal requirements be observed in purchasing the materials and equipment used by the worker.

First, we have the Federal regulations such as those governing the use of explosives and explosive material issued by the Bureau of Mines and those put out by the Interstate Commerce Commission covering shipping container requirements for such materials as liquid gases and other dangerous materials.

Second, we have the numerous state laws and regulations to be observed such as those governing Workmen's Compensation, Factory Inspection and Health. We also have to keep in mind the requirements of municipal ordinances regarding fire prevention or public health.

Products Classified

In deciding what to buy, it seems to me that all purchased products relating to the health of the workplace can be divided into three general classes:

1. Those which are tested and approved by impartial and independent organizations, public or private.

2. Those which are manufactured to standards such as those provided by the American Standards Association but which have not actually been tested and approved and carry no official seal of approval.

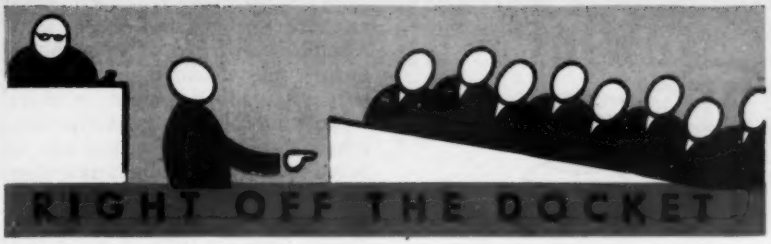
3. Those which conform to no standards and for which no tests have been made.

Testing Agencies

It might be well to say a few words about the agencies which do the type of testing mentioned above. The Bureau of Mines is a notable public example, particularly with reference to such items as gas masks and respirators. The Underwriters' Laboratories, Inc., are a particularly fine example of an organization giving its approval to such items as safety cans, fire extinguishers, explosion proof motors and safety switches.

The following list of materials includes some of those for which ASA standards have been established but in which the purchaser must ascertain for himself whether such products as actually purchased conform to those standards: Drinking fountains, gloves, aprons, electric arc welding equipment, goggles and x-ray equipment.

There remains a large group of materials where the Purchasing Agent must rely on his own individual resources and those of his organization, since there is no official body upon which he can rely. This class includes such materials as hand soaps, hand creams and others. In purchasing a protective type of material, the Purchasing Agent will, of course, make full use of his own past experience and the experience of other qualified men in his plant.



The trend of litigation on workmen's health and accident compensation is reflected in these briefs on the latest and most representative cases coming to trial in the intervals between issues. Familiarity with this trend is important to every industrialist. Clip cases and file for future reference.

Worker Poisoned by Solution of Soap and Alkali

HERMAN Lee Pharr sued Peerless Woolen Mills for damages, claiming that the company was engaged in the making and manufacture of cloth and woolen fabrics and as part of said process, it washed the same. The claimant was employed by the defendant in its washroom engaged in washing its products for approximately a year and one-half. In washing the cloth and fabrics, it was run through a washing machine filled with a solution of strong soap and water and alkali solution, and in

so washing, Pharr used his hands in putting the cloth fabrics into the machine. In taking the fabrics out his body and clothing became wet with these solutions and while he was working he was not warned or notified that the soap and alkalies would in any way affect or harm him or cause any disease.

He also claimed that he was not furnished gloves or protection for his hands and body to prevent his being poisoned by the solution. On or about January 1, 1942, Pharr's body from his waist line to his shoulders broke out with a rash which gradually grew worse. The skin and flesh cracked and broke out in places of his hands to the bone and his hands became raw.

It was contended that the resulting condition was due to the constant and continuous contact and exposure to the soap and alkali solutions, resulting in an occupational disease known as Dyer's soap poisoning.

The company contended that the claim was compensable under the meaning and terms of the Workmen's Compensation Act as the condition resulted from an accident which grew out of and in the course of the employment; therefore an action in court could not be maintained.

The court concluded, however, that the condition or disease known as Dyer's soap poisoning was not compensable under the provisions of the Workmen's Compensation Act. It was not construed to be an injury resulting out of and in the course of claimant's employment within the meaning of the Act and that, therefore, an action under the Common Law theory to recover damages for such injuries would lie. The company was held responsible to take into account the properties of such substances as he employs and is chargeable with knowledge of the fact that various substances and poisons used in industrial processes are injurious to persons who come in contact with them.

Peerless Woolen Mills vs. Pharr
Georgia Court of Appeals
July 27, 1946
40 S.E. Second Series, pg. 160

Injured While Opening Pop Bottle On Premises

AT AN employee's suggestion, a candy machine had been introduced into the Texas Company plant. The company also had placed in its office a water cooler containing ice and permitted its employees to leave the plant to go to a stand a short distance away for soft drinks.

When these drinks became scarce, the employee who had originated the idea of the candy vending machine, arranged with the American Beverage Company to supply R. C. Colas and these drinks were bought with the profits of the candy machine. The bottles containing the cola were placed in a small box furnished by the company near the water cooler. When an employee desired to have a soft drink, he would place the necessary coin in a box nearby and help himself. From these profits the supply of soft drinks was renewed.

On the day of the accident, claimant, a shipping clerk, went from the shipping room to the main office for the purpose of obtaining some records. There he joined other employees in having a soft drink. He took a bottle out of the cooler and in attempting to open it, cut his hand rather badly.

It is proper to say that the accident occurred "in the course of employment" as it is conceded that an employee temporarily leaving his work to get a drink or to go to the toilet, is considered as still "being at work" to such an extent that if in the interval, he is injured in an accident, it may be deemed to have occurred in the course of employment. A further requirement is that the accident must arise out of the employment.

The court concluded that the employee sustained an injury during his hours of employment, and that it arose while in the course of employment, where the employer recognized and approved a practice of employees providing themselves with cold drinks, even though the employer would not furnish the beverage. It appears that the trend of thought is toward liberalizing or extending the law of the Workmen's Compensation statute so as to include such situations within the protection of the statute.

St. Alexandre vs. Texas Co., et al.
Court of Appeals of La., 10/2/46
28 Southern Reporter, pg. 385

Strains Lead To Injury While on Job

EDWARDS was employed as a learner and on the date of injury, while in the course of his regular employment, he was asked to lift a

(Turn to Page 26)

Part I

Plant illumination can be economically designed to fit particular seeing tasks. Lighting has dual significance to the workers —it affects the quality of work and his attitude toward his job.

INDUSTRIAL operations are now performed at closer tolerances than ever before, imposing a greater visual task upon the eyes with the result that much more illumination is necessary for a job if good quality and quantity is to be safely achieved. Eyestrain, ease and speed of vision are important and poor illumination influences production more than illness. A number of instances are available to show the rise in production rates after well-designed lighting plans were installed.

There are definite factors of health to be considered in the problem of illumination. Too little light or too much light both lead to eye strain and fatigue. Many chronic headaches may be due to working under poor lighting conditions. The relation of poor illumination to fatigue and ill-health is best appreciated by analyzing strain and irritation caused by work under glare or insufficient light.

The cost of poor lighting is significant, too. It appears in the form of slowed production, excessive spoilage, poor and uncertain inspection and an increased accident frequency. It has been estimated by competent sources that poor lighting is a direct cause of 5% of industrial accidents and contributes in 20 per cent.

Industrial lights must fit the particular job. Fixtures installed here and there by maintenance men, without knowledge of illumination factors, may defeat their own purpose by producing glare or sharp contrasting zones. A good illumination system for workrooms can be based upon a general lighting system providing about 20 foot candles (a foot candle is the unit of light delivered from the light of one candle at the distance of one foot) augmented by well-designed supplementary units to supply higher illumination levels where needed.

The basic requirements for good industrial lighting are as follows:

1 Illumination should be adequate at the darkest point of the area being lighted.

2 Glare should be avoided.

3 Illumination should be fairly uniform throughout the working area.

4 Illumination should be properly directed and diffused.

5 The color of the light should be suitable for the purpose.

6 Illumination should be steady.

The eveness of illumination from an overhead system is governed almost entirely by the relation of the spacing between units to their height above the floor. The location of outlets determines how uniformly the light will be distributed over an area. Laying out of outlets should be governed by the arrangement of bays, columns, beams and other construction details, always keeping within the limit of spacing as dictated by the ceiling height or height at which the lamps may be mounted.

Supplementary Lighting

Certain visual tasks require different methods of lighting, and lighting is most efficient when designed to fit those tasks. Overall systems of lighting are primarily designed to fit a great number of ordinary visual jobs but cannot possibly be satisfactory when it is required to provide light for some of the more difficult individual tasks. Particularly close inspection jobs, or assembling of fine parts, or any one of such difficult visual tasks requires supplementary lighting to help the worker's eyes perform the task with greater efficiency. Local lighting should never be used alone but should be only a supplement to a system of general illumination. The latter should produce a uniform level of illumination of at least one tenth of that produced by the local lighting.

(See Chart to Right)

Tailored for the small machine shop is this lighting arrangement which is supplemented by local "goose-neck" fixtures that increase seeing level light at the point of machine operation.

RECOMMENDED MINIMUM STANDARDS OF ILLUMINATION FOR INDUSTRIAL AREAS

A good guide for illumination levels to be provided at various operations is shown in the accompanying table.

FOOT CANDLES		▼ 5	▼ 10	▼ 20	▼ 50	▼ 100
SEEING LEVEL	A					
Seeing tasks involving (a) the discrimination of extremely fine detail under conditions of (b) extremely poor contrast, (c) for long periods of time. Bench and machine operation, sewing and weaving dark materials and other work requiring close tolerances and other critical visual tasks.						
SEEING LEVEL	B					
Seeing tasks involving (a) the discrimination of fine detail under conditions of (b) a fair degree of contrast (c) for long periods of time. Includes medium bench and machine work, medium fine assembly and inspection, drafting and other detailed visual tasks requiring sustained effort.						
SEEING LEVEL	C					
Moderate critical and prolonged visual tasks such as rough bench and machine work, medium assembly and inspection, rough testing and similar operations.						
SEEING LEVEL	D					
Casual visual tasks such as rough manufacture or assembly, moulding clay products, receiving and shipping storerooms and storage areas.						
SEEING LEVEL	E					
Rough visual tasks such as where crude manual tasks are intermittently carried on, hallways and passageways, etc. There is group of special seeing tasks which require the discrimination of fine detail utilizing (a) the reflected image of a luminous area or (b) the transmitted light from a luminous area. 1 Luminous area shall be large enough to cover the surface which is being inspected. 2 The brightness must be within the limits necessary to obtain comfortable contrast conditions. This involves the use of sources of large area and relatively low brightness.						

(Part II of this article will appear in August Issue)

POWER PRESS SAFETY *Tips*

PART IV—IN A SERIES ON GUARDING OF POWER PRESSES

THE emergency stop of a press should be kept in good condition. Try it by loosening the brake, and then without stepping on the pedal, try to turn the shaft ahead with a bar. If this is possible the emergency stop is gone and should be replaced at once. A press should never be run with this stop out of condition. Many old style presses were built without this stop, and on many of the newer 4252—Occupational Hazards, July .10 presses it has been worn out or broken by continual over-running of the press. If a press is without an emergency stop, a common ⅝" square head cap screw placed on the collar about 1¼" ahead of the knockout cam will serve as a stop.

Many foremen do not realize the peril of operating a press with a faulty brake or clutch until a serious accident has happened. It is therefore the duty of the safety engineer to insist that presses found to be in bad condition be shut down immediately and not allowed to run again until they are repaired.

No large press should be allowed to run without a ram counterbalance: either long springs which support the weight of the ram or an air cylinder supplied with air underneath the piston. The latter is by far the better method, if properly installed.

Provide Surge Tank

In some plants, air cylinders are connected directly to the regular plant air system. This is very dangerous and should never be done. There should always be a surge tank supplied with air from the plant system through a check valve so that if the shop air should fail there will still be pressure in the tank.

A pressure gauge should be supplied and a frequent check of the pressure made. Never try to operate a press counterbalanced by air with the air pressure off. The ram will fall, for the brake is not set tight enough to hold the entire weight of the ram.

If springs are used, they should be carefully adjusted to the different die heights. If the springs are enclosed in a pipe guard, they should be inspected at regular intervals to see that they have not been broken. A press that is properly counterbalanced requires far less power to operate because the brake does not have to be so tightly set.

Single Stroke Device

In some states every press must be equipped with a non-repeat or single stroke device. The various press manufacturers equip presses sold in these states with such devices to comply with the law. When a non-repeat feature is attached to the clutch mechanism, there must be some way to throw it out of action when the press is used for continuous work.

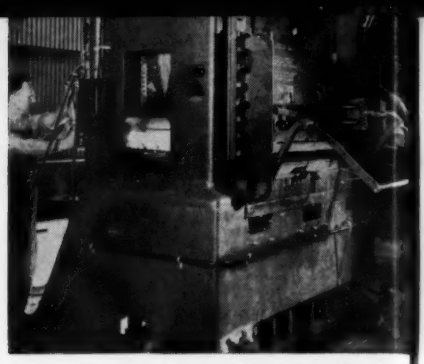
There is no method of automatically putting the non-repeat in action when the press is used for a hand-in-the-die operation where it should by all means be used. This is a point that should always be checked carefully by the die setter before he completes his set-up. Operating a press without attention to this factor may lead to serious trouble because the operator expects the press to be limited to a single stroke on hand-in-the-die operations.

Pedal Adjustment

Many pedals are adjusted with too little and others with too much travel. The pedal should have about 3 inches of travel, and the clutch rod should be connected at a point about one-third of the way out from the pivot point, so that it will have about 1 inch of travel. This motion is sufficient to trip any standard clutch.

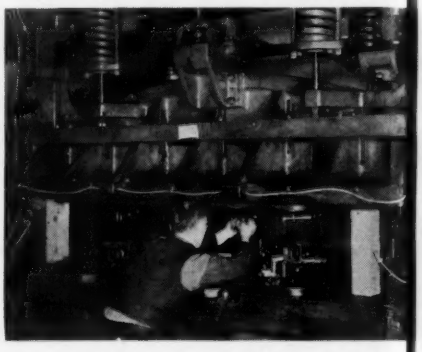
Pedal springs in many cases are very often much stronger than necessary. Often the spring is a makeshift affair that has been placed on the press because the press repeated, while the real cause of the trouble was a faulty clutch. A spring that is too strong is bound to cut down production, for the operator soon tires.

There should be no slack or side "slop" in the pedal, and it should be positive in its action. A faulty pedal is likely to distract the operator's attention, and an accident may result. If pedal guards are used, they should be checked to see that they do not bind the pedal. In many cases repeating of the press, can be traced to a pedal's binding in the guard.



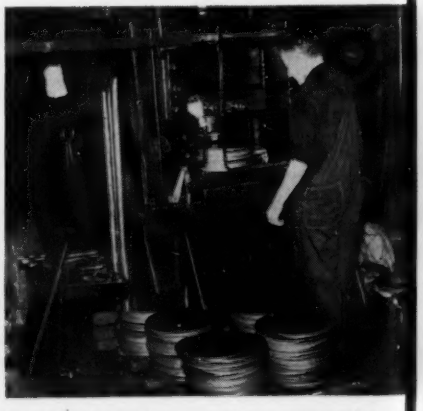
Push-away guards installed on this Minster press forcefully make operators stay out of the danger zones as the dies come down.

(National Enameling Photo)



Safety blocks painted a bright red and chained to this press are positioned to prevent accidental dropping of the ram while repairs or adjustments are being made.

(General Electric Photo)



Draw and toggle presses keep operator's hands away from dies by means of a sliding gate guard.

(Douglas Aircraft Photo)

MEN AND MATTERS

News • Activities • Plans

NEW DISTRIBUTOR . . . E. A. Warren, vice-president of the General Detroit Corp., and Harry F. Maxon, vice-president of the Boston Woven Hose and Rubber Co., recently announced a new marketing arrangement concerning Boston Woven Hose. The Detroit corporation and its west coast subsidiary, the General Pacific Corp., are now national distributors for all fire hose manufactured by the Boston Woven Hose & Rubber Co. The hose will continue to be made and sold in their established brand names. General Detroit will also continue to market its own Inner Flex fire hose.

INDUSTRIAL DOCTORS ELECT . . . Dr. Harold A. Vonachen, Medical Director at Caterpillar Tractor Co., Peoria, Illinois, has been named president-elect of the American Association of Industrial Physicians

Dr. Vonachen

and Surgeons for 1947-48. Dr. Vonachen has been associated with industrial medicine since 1927, and received the Knudsen Award for 1943-44 for the most outstanding contribution to industrial medicine.

MINE RESCUE TRUCK . . .The Mine Safety Appliances Company, Pittsburgh, has announced the delivery of a new mine rescue truck to Richard Maize, Secretary of Mines, and W. Garfield Thomas, Deputy Secretary of Mines, for the Commonwealth of Pennsylvania. The first of three ordered, the truck is, in fact, a complete mine rescue station on wheels.

It is equipped with oxygen breathing apparatus, gas masks, protective hats, electric cap lights, gas detecting instruments, first aid materials, stretchers, blankets and an inhalator.

Working in close cooperation with the Department of Mines was the Mine Safety Appliances Company, from whom the mine rescue and first aid equipment was obtained, and the Auto Truck Equipment Company, also of Pittsburgh, who was the builder of the truck.

"SUPERSONIC" ILLNESS . . . A recent London news item reveals how occupational diseases are born. The report said that the British government and medical science were investigating the first reported case of "supersonic sickness."

The victim, a worker at a turbo-jet engine plant, was made ill by inaudible sound waves. General weakness, loss of balance and unsteadiness while walking were the general symptoms.

Technicians are investigating the "cone of sound" which is said to trail from jet engines. Human beings reportedly cannot remain within that cone without ill effects.

CAUSTIC DATA . . .The Manufacturing Chemist's Association has announced the publication of the Chemical Safety Data Sheets SD-9 on CAUSTIC SODA, SD-10 on CAUSTIC POTASH, and SD-11 on PERCHLORIC ACID SOLUTION the ninth, tenth and eleventh in the series of chemical product safety manuals being prepared by them. The manuals are designed for supervisory staffs and management and concisely present essential information for the safe handling and use of chemical products. Copies of these manuals may be procured from the Association at 608 Woodward Bldg., Washington 5, D.C. at 20 cents per copy.

HOPE FOR THE BLIND . . . Extensive research which may enable many of the blind to see again is now underway in the laboratory of the Eye-Bank for Sight Restoration, Inc., according to Mrs. Aida de Acosta Breckenridge, executive director at New York. Dr. Herbert M. Katzin, who is in charge of the laboratory, says the principal objective of its research is the discovery of a method for long-time preservation of corneal tissue, but many other fields relating to prevention of blindness are also being studied.

SAFETY CARTOONS POPULAR . . . The Pepperell Manufacturing Company have discovered that the most important page of their employee magazine (Pepperell Sheet) is the inside back cover which carries a monthly safety cartoon by Jack Bliss. Inasmuch as this feature receives the highest reader interest, the company recently reprinted 12 cartoons in a 16-page "Play It Safe" booklet to reach new employees and to refresh the older employees in important safety points.

RECENT SAFETY SHOE PROMOTION . . . N. C. Whitsett, general manager of Hy-Test Division, International Shoe Company, St. Louis, announces

Mr. Long

the appointment of Ed Long to the position of sales promotion executive, Hy-Test Safety Shoes at the Roberts, Johnson & Rand branch of the company.

Mr. Long has been employed by the International Shoe Company for 25 years and brings to his new job a thorough knowledge of safety

(Turn to page 24)

HERE'S A *Safer Way*

Safety Illustrated
NUMBER 10

Here are new pictures for your photographic safety manual. Clip and save.

•

The average man seems to believe he can bend nonchalantly over any object, regardless of its weight, and heave up on it with the greatest of ease. Resulting strains and hernias are matters of great surprise . . .

This man knows the right way to lift. His knees are bent, his shoulders are back and his legs are ready for the actual lifting.

•

Here's a fellow who knows hazardous chemicals are dangerous to work with if protective clothing is not worn. Taking no chances, this man has put on a rubber apron, rubber gloves and protective goggles before starting on this particular job.

•

(Leeds & Northrup Co. Photos)

CHARTING THE WAY TO SAFETY

Loading materials on trucks can present real hazards to employes if they don't know proper loading techniques.

HAZARDS to employes and damage to finished parts during loading operations at the South Philadelphia Works of Westinghouse were recently overcome by means of a safe loading chart for plant industrial trucks.

Before these safe loading charts were made up, accidents were regularly occurring due to overloading, improper loading and improper handling of materials. Fortunately, the accidents which were happening had not as yet seriously injured anyone, but there were several minor injuries and jitneys and trucks were spending considerable time in the repair shops.

A study of the problem revealed that confusion existed among the employes as to the proper method of loading and the safe loads which could be hauled. The jitneys and trucks were being overloaded, and accidents were happening because material was not stacked or piled properly. In addition to injuries sustained by the employes, remachining was often required to repair damaged items.

The result of a detailed study of this problem was the development of a loading chart which indicated the proper type of transportation equipment, the proper load of material which could be easily and safely handled by both employee and vehicle, and the proper type of block or skids required to safely handle the load during transportation.

Since it was impossible to cover the thousands of parts which are manufactured, representative items were chosen to give a reasonable distribution of sizes, shapes and weights. This did not include those special items for which skids and holding fixtures were provided before moving could be ordered. Each representative item for a series of similar sizes and shapes furnished the correct answer to a considerable number of similar parts. Identification was made easy since a picture of the part was given and the total weight indicated.

The chart was distributed to all safety men, supervisors, transportation department employes and crane hookers-on. Accidents were immediately cut down. Where loading questions arose they were quickly answered to the satisfaction of all concerned by reference to the chart. Safety men are now able to verify proper loading and blocking of equipment being moved by jitney or truck through their department. In addition, the employes who handle parts have become safety minded and have practically eliminated accidents, while at the same time reducing injury to finished parts. *There's profit in prevention!*

(Copy of Chart used at Westinghouse Mfg. Co.)

TRANSPORTATION LOADING CHART

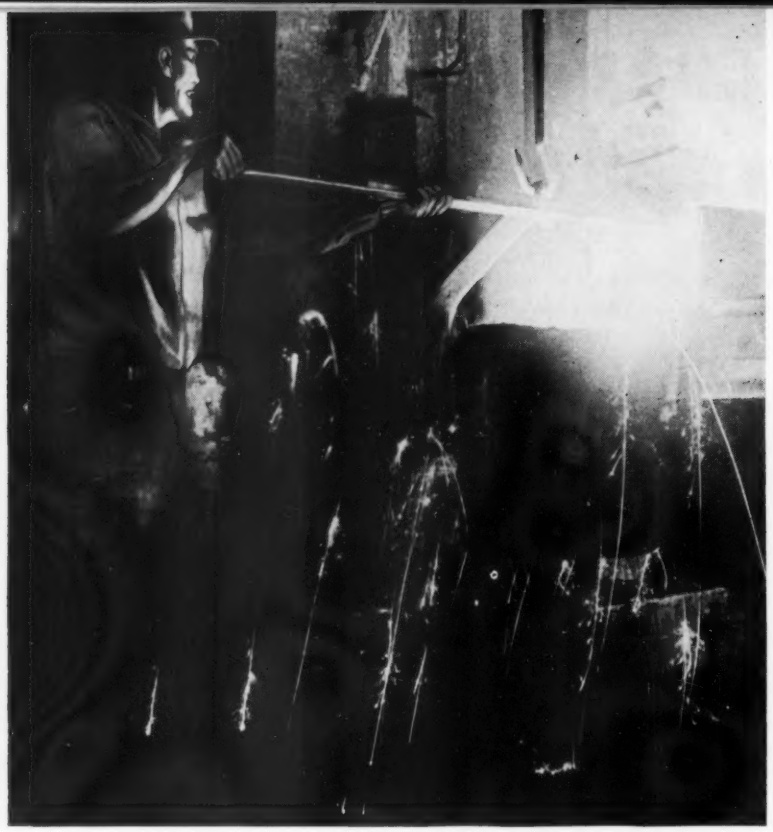
NOTE FOR SHOP SHIPPERS
This chart shows quantity authorized by management—overloads will NOT be moved.

NOTE FOR TRUCKERS
Loads in excess of the quantity shown on this chart are NOT to be moved.

	Small Skid	Large Skid	Flat Jitney	Lift without Skid	Trailer	Trailer Heavy Duty
WGT 2400 lbs. No. G2006	1	1	1	1	1	2
WGT. 862 lbs. No. AH205	2	3	NO	NO	NO	NO
WGT. 650 lbs.	3	4	4	NO	4	NO
WGT. 370 lbs. No. 237	6	7	7	NO	7	NO
WGT 185 lbs. No. L2005	7	11	NO	NO	NO	NO
WGT 70 lbs.	20	30	NO	NO	30	NO
WGT 59 lbs. No. 3192	30	40	NO	NO	40	NO
WGT. 1400 lbs.	NO	NO	2	NO	2	NO
WGT. 792 lbs. No. AH230	2	3	NO	NO	NO	NO
WGT. 460 lbs. No. 256	5	6	6	NO	6	NO
WGT. 357 lbs. No. AH212	5	7	7	NO	7	NO
WGT 150 lbs. No. AH243	10	15	NO	NO	15	NO
WGT 60 lbs. No. G2014	30	40	NO	NO	NO	NO
WGT. 52 lbs. No. G2012	30	40	NO	NO	NO	NO
WGT. 943 lbs.	3	3	3	NO	NO	NO
WGT 792 lbs. No. AL205	2	3	3	NO	3	NO
WGT. 436 lbs. No. AL256	6	6	NO	NO	NO	NO
WGT. 242 lbs.	7	10	NO	NO	12	NO
WGT. 130 lbs. No. 213	10	15	NO	NO	NO	NO
WGT 60 lbs. No. AH205	20	30	NO	NO	NO	NO
WGT 31 lbs. No. L2081	20	30	NO	NO	NO	NO
WGT 918 lbs.	1	2	2	NO	NO	NO
WGT. 684 lbs. No. 204	3	4	4	NO	4	NO
WGT. 366 lbs. No. BH212	5	7	7	NO	7	NO
WGT 252 lbs.	8	10	NO	NO	10	NO
WGT 128 lbs. No. 239	15	20	NO	NO	NO	NO
WGT 60 lbs. No. G2012	30	40	NO	NO	NO	NO
WGT 18 lbs.	30	50	NO	NO	NO	NO

CLEAN

By
DON G. McDANIELS
Safety Director,
Ferro Machine & Foundry, Inc.
Cleveland, Ohio



Workman tapping iron hole in cupola. Temperature approximately 2800°. Insulated leg guards, spats and safety shoes are being worn but not shown in picture.

Engineered treatment of air and employee education have been found most effective by this large foundry in reducing heat fatigue to a minimum.

ONE OF the oldest health problems confronting the foundry operator is that concerning heat fatigue. Careful consideration is given this problem because it is the skilled foundryman who is most liable to "burn out." When a man is taken off the job after falling victim to cramps, nausea, and other typical symptoms of heat fatigue, production throughout the entire foundry slows down. These trained men cannot be replaced easily or overnight, and the foundry operator doesn't want to lose him if at all possible.

During 1946 Ferro chalked up 5,265,000 manhours and suffered only fourteen cases of heat fatigue. Four of these men were sent home and the others were able to return to the job after resting in the plant dispensary. During July of 1946, thirty-five men were given treatment because of heat fatigue symptoms, but none of these foundrymen lost time.

We attribute our success in keeping heat fatigue cases to a minimum to two important factors—treatment of air and employee education.

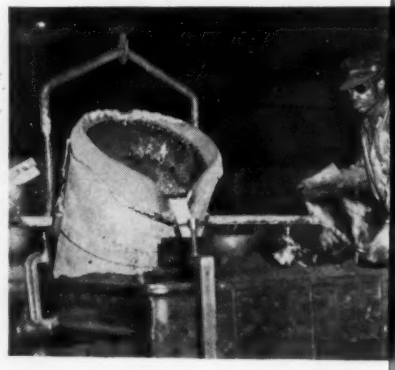
Believing that one of the direct advantages of having clean, cool air in the foundry is an immediate reduction in heat fatigue cases, we have installed large fans and circulatory systems throughout the foundry. These systems not only move 350,000 cubic feet of air per minute, but are constantly diluting inside atmosphere with a clean supply of fresh, outside air. This, we feel, is the most important factor in reducing the problem of heat fatigue in the foundry. Wherever practicable, we have installed hood ventilators over hot spots in our production lines so that heat and toxic fumes are quickly dispersed.

Our ventilating system not only cuts down on heat fatigue, but also accomplishes other favorable results.

Employee Education

During the regular procedure of employee safety training, we include a discussion of the hazards which lead to heat fatigue in the foundry. We stress the importance of careful eating habits, especially over-eating in hot weather during lunch periods. The danger of cramps which comes from drinking cold water or other beverages such as soda pop, are pointed out to the foundrymen. The importance of keeping in good physical condition is being constantly emphasized. We naturally resort to the use of salt tablets as part of our battle against heat fatigue. In our foundry the word somehow got around among the workers that the salt tablets were a laxative. Such rumors are fairly common wherever

Foundryman wearing colored safety glasses and protective gloves pouring mold on conveyor line.



AIR AND EDUCATION VS. HEAT HAZARDS

salt tablets are used, but we found it helpful to post signs to the contrary near each dispenser. These signs also urged the taking of the tablets.

Medical opinion agrees no harmful effects result in a normal person through use of salt tablets.

Any person on a special diet, or a worker who is subject to heart or kidney disease, should be guided in the use of the salt tablets by the plant physician.

The Ferro Machine and Foundry, Inc., Cleveland, Ohio, is the second largest independent automotive casting foundry in the United States. They turn out cylinder blocks, cylinder heads, crank cases and other gray iron automotive castings for the Ford Company and the General Motors Corporation. Ferro has nearly 3,000 employees and pours approximately 500 tons of castings per day. Their operations involve the use of four cupolas, one electric tilt furnace and seven production conveyor lines.

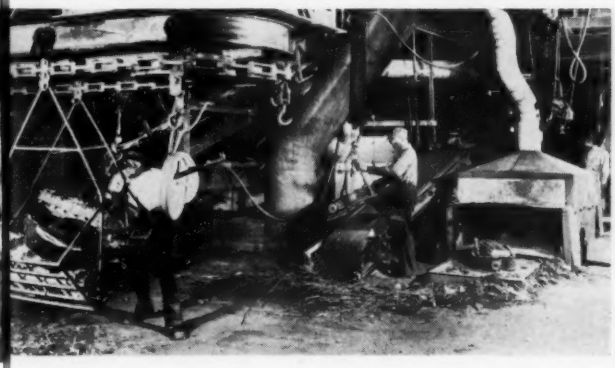
Other Foundry Hazards

The hazards of silicosis are vastly reduced with such a system. Smoky and dusty areas prohibit good vision. We know our men can now see what they are doing and what is coming their way. This has increased efficiency, production, and has reduced the accident rate. Smoke and dust-laden air irritates the membranes of the eyes, nose, throat and bronchial tree and can produce chronic, if not disabling, conditions. Our treatment of the air dispels such areas quickly and we feel has much to do with our low lost-time rate. It has definitely contributed to our high employee morale throughout the foundry, and indirectly, has helped maintain our production schedule.

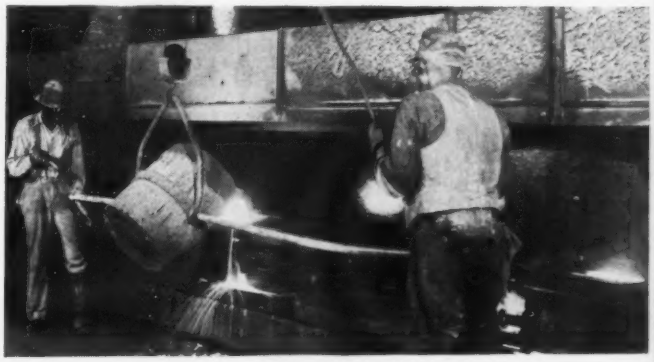
Injury hazards in foundries due to the presence of unsafe working conditions need not be great and can practically all be removed by the use of obvious and well known methods and good housekeeping practices. The adequately supervised foundry will keep the aisleway clear of debris, the atmosphere well ventilated and the right man on the right job.

Ferro maintains a 3-shift safety cart manned by a uniformed Safety Patrol consisting of two men per shift. These men are on the floor two hours per shift, and see that safety equipment such as leggings, gloves, goggles, eye shields, aprons, shin guards and ear deafeners are available to the men. This service has proved a success because the men are not required to leave the job in order to properly equip themselves. The men are paid on a piece-work basis and they were reluctant to leave the job for a pair of goggles or gloves. Now that the service is brought to them they lose no time and both the worker and the persons responsible for production schedules are happy—and safe.

Workmen at shake-out position. Castings in basket and shake-out platform are red-hot. Note ventilating equipment.



Foundrymen pouring molds on fast moving conveyor lines. Note ventilating hoods which take care of smoke and toxic fumes.



MEN AND MATTERS

(Continued from page 19)

shoes. He has collaborated in every phase of their development from the company's first entry into the safety shoe business.

FIRE-FIGHTING "MATCHES" . . . P. W. Eberhardt, vice-president of Walter Kidde & Company, Inc., spoke at a meeting of the Western Pennsylvania Safety Council at Pittsburgh, Pa., and called for competitive employee training programs in industry to promote techniques of fire protection.

"Team competition," said Mr. Eberhardt, "can promote real interest among employees in the plant and will do more than anything else to educate the workers in how to fight fire. When a winning team from one plant is matched against teams from other plants, the interest becomes even keener. Such matches in demonstrating fire fighting ability can eventually be built into an annual nationwide fire safety contest."

NAME PLANT OFFICIALS . . . William H. Loveman, president of the Burdett Oxygen Company of Cleveland recently announced several new appointments for its subsidiary, the California Air Products of Los Angeles. The new plant is nearing completion.

Jack Bernstein will be manager of operations, while William Young will be in charge of the construction of the acetylene plant and Winfield Rice will be superintendent of the oxygen plant. Burdett carries a complete line of protective equipment as well as welding and cutting supplies.

FUME SOLUTION FOUND . . . Clay pipe ducts were specified by Bell Telephone engineers to carry away hot and acid fumes at the Murray

Hill laboratories in New Jersey. The system is said to be completely effective in that the clay is impervious to all types of acids, alkalies and chemicals.

The engineers say that such a system can be employed simply and economically by almost any industry faced with the problem of disposing hot or acid fumes.

INDUSTRIAL EYE-CARE FEATURED . . . The New York University College of Medicine recently opened a graduate course in the occupational aspects of ophthalmology (care of the eyes). It is the first course of its kind to be given in any medical school in the country.

The course will provide doctors enrolled in the graduate curriculum of the college with a complete background of the relationship of industry with eye care and is being carried out in cooperation with the National Society for the Prevention of Blindness. It is the hope of the persons responsible for this course that other medical schools will pick up the pattern being set at New York University.

SAFETY DISPLAY PLANNED . . . The National Publicity Council for Health and Welfare Services plans to compile a collection of industry-sponsored printed pieces on safety and health themes for exhibition at the Annual Meeting of the American Public Health Association in Atlantic City, N. J., October 6 to 10.

● The durability of Hillyard Floor Treatments is measured by their Hi-Quality and the fact that for nearly a half Century they have given lasting satisfaction in the protection of all types floor surfaces and in economy, time saved and labor costs reduced.

● **There is a Hillyard Floor Treatment Specialist in your community ready to give advice on any floor treatment or maintenance problem . . . write or wire us today . . . no obligation.**

HILLYARD SALES COMPANIES

370 TURK ST. SAN FRANCISCO 2, CALIF. **DISTRIBUTORS HILLYARD CHEMICAL CO. ST. JOSEPH, MO.** **BRANCHES IN PRINCIPAL CITIES** 1947 BROADWAY, NEW YORK 23, N. Y.

AMERICAN OPTICAL WINS AWARD

In a state-wide accident prevention contest sponsored by the Massachusetts Safety Council in cooperation with the Associated Industries of Massachusetts, American Optical Company has won the contest for 1946 in competition with 325 companies and received the Grand Trophy presented annually to that Massachusetts industrial concern adjudged to be the safest in which to work.

Commenting on American Optical Company's 1946 safety record, Jesse Blackburn, safety engineer, said that "accidents were held at a minimum through wholehearted cooperation existing between AO's management, supervisors and employees who in their respective capacities supported AO's continuing safety campaign."

One of the vital factors in the success of this campaign, he said, is American Optical Company's traditional attitude in providing corrected, protected vision for its employees through an eye care program designed to promote safety on the job.

This program includes vision checks and examinations, corrective glasses if needed, safety goggles for eye-hazardous jobs, corrective-protective goggles for employees with defective vision, and occupational glasses for employees on jobs requiring special visual skills and attention.

One of the features of the program is the screening of employee's sight and a complete eye examination and correction if needed. This program, created to improve industrial safety and visual efficiency, is carried on under the direction of AO's medical department.

Mr. E. E. Williams, vice president of American Optical, receives the Trophy from R. F. Williams, executive vice-president of the Associated Industries, while E. F. Copell, president of the Safety Council watches the ceremony.

NEOPRENE HOOD IMPREGNATED

WORK GLOVES FOR *Safety* PLUS!

HOOD Work Gloves' scientifically compounded, specially bonded *Neoprene* surface *protects vital hands* from abrasion, acids, alkalies, chemicals, greases, oils, and other irritants. They keep hands safe, clean and dry. Special curving to the natural contour of the hand insures dexterity. Superior vulcanization by time-tested techniques results in still-usable gloves when others are worn out. Gauntlet model protects wrist and lower arms and the reinforced thumb crotch assures extra wear at this all-important point. Both models are Canton-flannel lined for added comfort. Let HOOD'S fifty years of leadership in the rubber industry be your guide to better work gloves. Since 1934—America's *Safety-Plus Glove.* Ask your jobber.

HOOD RUBBER CO., WATERTOWN, MASS.
A Division of the B. F. Goodrich Company

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INTEGRATED SOAPS

DEVELOPED BY

Lightfoot

MAKERS OF QUALITY SOAPS FOR OVER FORTY YEARS

A *triumph of Lightfoot laboratory research!* Scrubber and soap welded to form a single, integrated, indivisible unit . . . with each particle a complete cleanser in itself. *This exclusive Lightfoot process has already gained acceptance as the greatest advance, in cleansing efficiency and economy, of the last decade!*

Lightfoot TREET

A FINE GRIND SOAP FOR **HEAVY DUTY**

Most popular industrial soap made! Efficient, safe, economical — the perfect cleanser for general plant use . . . ideal for women workers.

Lightfoot COMMODORE

A COARSE GRIND SOAP FOR **EXTRA HEAVY DUTY**

Same formula as Lightfoot TREET but ground coarser for removing extra heavy incrustations of dirt, grime, grease, oil, etc.

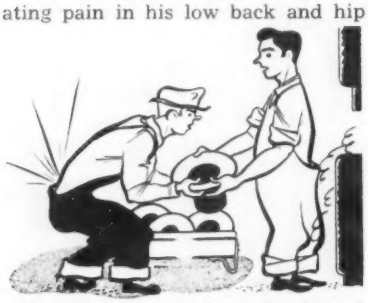
Write for samples to

LIGHTFOOT SCHULTZ COMPANY

663 Fifth Avenue, New York 22
209 South State Street, Chicago 4

(Continued from Page 15)

plate from the floor and hand it to the pressman. In doing so he handed the plate to the pressman to his right and at the time his body was in a twist from the position in which he was standing. He felt an excruciating pain in his low back and hip



and turned very white and pale and had to lie down. He was seen by a doctor two days later who strapped his back and treated him for a strained muscle. Edwards worked for several days. His condition was diagnosed as a ruptured intervertebral disc and he was operated upon as a result.

The company contends that the accident did not come within the definition of an accident as defined by the Workmen's Compensation Act by reason of the fact that the work performed at the time was similar to the work performed at all prior times. There was nothing unlooked for nor was there an untoward act produced by reaching for the plate and handing it to another in a "twisting position."

The commission sustained the company's contention, but the Court concluded to the contrary. The mere fact that there was no external injury does not defeat his right to recovery.

The company further contended that the accident occurred solely by reason of the weak condition of the body of the claimant. The fact that the injured suffered a ruptured intervertebral disc and the strain of lifting and turning should be sufficient to indicate that what occurred was an accident—that the fact the injured parts succumbed to earlier strains is not significant—it was simply the case of the pitcher going to the well once too often.

The court ruled the matter was an accident compensable under the law —untoward, unexpected, undesigned and distinctly marked as to time, place and circumstance, and clearly comes within the definition of an accident within the Workmen's Compensation Act. Claim was compensable.

Edwards vs. Piedmont Publishing Company, et al.
Supreme Court of North Carolina
March 4, 1947
41 Southeastern Reporter, second series, pg. 592.

Freight Elevator Ride Brings Injury

CLAIMANT at the time of his injury was returning to his place of work by riding on a freight elevator from the basement to the second floor of the building. The elevator was 10x14 feet and had a wooden floor upon which, it was claimed, there was some oil. There were other employees on the elevator as well as some boxes and barrels of material.

On the way to the second floor, a fellow employee pushed the claim-

ant. He fell and caught his leg in the shaft, causing serious injuries. There

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If you are not familiar with the wide range of PLY protection, we urge that you get the facts by writing for your copy of our book "The Answer to Industrial Dermatitis."

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MOXSAN FINGER PROTECTORS

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Send 10c for sample or $6.15 for a box of 72 . . . today!

FREE Special circular illustrating full line of finger protectors and illustrated catalog of safety work gloves and safety apparel

OLYMPIC GLOVE COMPANY Inc.
95 Madison Ave., Dept. 16, New York 16, N.Y.

was some indication of horseplay and sportive conduct at the time of the accident, although the claimant denies this.

He contended that regardless of any push or shove, he slipped upon the oily floor and that the slipping was at least a contributing factor to the accident and was disconnected from the horseplay, if any, and was therefore incidental to the employment. The special circumstance according to his claim was such to entitle him to compensation. There was no contention that horseplay was habitual and was known to the employer so as to bring the case within the scope of cases of that nature.

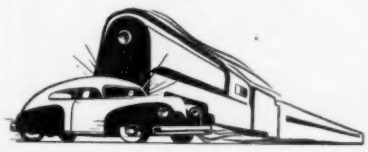
It was concluded that the employer was not liable under the Workmen's Compensation Act to pay compensation for an injury which was a result of horseplay whether the injured party instigated the occurrence or took no part in it, for while an accident happening in such circumstances may arise in the course of it, it cannot be said to arise out of the employment. Claim denied.

Budrevie vs. Wright Aeronautical Corporation
Supreme Court of New Jersey
December 17, 1946
50 Atlantic Reporter, Second Series, pg. 147

Personal Errand Brings Injury Resulting In Death

PASQUALE ALAMPRESE was employed in a garage of the Public Service Company of Northern Illinois to clean and service cars. On October 19, 1944, he received an injury resulting in his death. The place of the company's business was approximately 1300 feet west of a railroad track. The company also operated an auxiliary garage about 650 feet east of the railroad tracks. The decedent was authorized to drive cars from one garage to the other garage only. His hours were from 4:30 p.m. to 1:30 a.m.

Shortly after 5:00 p. m. Alamprese drove a car from the main plant to his residence to see if his children were safe, since his wife was working. In going, he necessarily passed the extra garage and crossed the railroad tracks. While taking the car back to the garage and while going west and crossing the railroad tracks,



Alamprese was struck by a train and killed.

The sole question involved in this case was whether he was engaged in the course of employment, since the Workmen's Compensation Act requires that to recover compensation for accidental injuries or for death, the injury must arise out of or in the course of employment. The company contended that going to and from the decedent's house was a deviation from the course of his duties. The claimant however contended that the deviation was slight and since the decedent was on his way back to store the car, he was in the employment of the company when he was killed.

The court concluded that whatever good reasons the decedent had for going to his house was not included in his duties and when he got to the place where it became necessary for him to cross the railroad crossing, which except for his deviation would not have occurred, the risk was wholly his and he was not during said time in the course of his employer's employment.

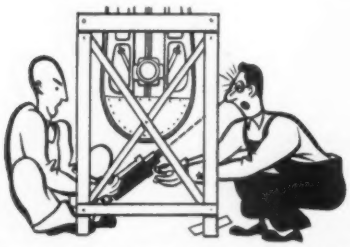
Public Service Co., of Northern Ill.
Illinois Industrial Commission, et al.
Supreme Court of Illinois
November 20, 1946
69 N. E. 2nd Series, pg. 875

What's your safety problem? If "your slips are showing" the answer is Gro-Cord's NEO-CORD soles and heels on safety shoes. Cords for non-slip safety, genuine duPont Neoprene for longer wear under the most damaging conditions. Say it for safety, say it for economical longer wear — "NEO-CORD." Genuine Neo-Cord soles and heels are manufactured only by Gro-Cord Rubber Company, Lima, Ohio.

Employer Fails to Provide Safety Devices

ABE BOWLIN was employed as a riveter. On the date of the accident, he was working with his riveting partner, Raymond Hartman. These men alternated in their work as riveter and bucker and on the date of the injury were working upon a piece of machinery known as an aluminum wing journal. As one man drove rivets into this piece of machinery, the other man held his bucking-bar against the reverse side in such a position as to cause the soft head of the rivet to spread and thereby become secure.

When Hartman finished riveting from his side, he started to pass the rivet-gun to Bowlin. Bowlin laid down his bucking-bar and reached under the table to receive the rivet-



gun. While it was being passed, the trigger caught on something and it operated the mechanism which permitted an inrush of air to the gun. This caused the rivet-set to fly out and strike Bowlin in the face. He was wearing ordinary glasses at the time. The entire lens was broken and pieces of glass entered into his right eye.

Only slight pressure was necessary to operate the rivet-gun. Its accidental operation could be prevented by means of a detachable spring fitting over the barrel of the gun. This spring is known as a safety-spring and in the operation is returned to the tool-crib after each day's work and reissued as needed.

Bowlin claimed that he had asked for a safety-spring at the tool-crib that morning and was told they they were on order, that none had been received and none were available. He had been using the rivet-gun for about three weeks and during that time had never had a safety spring, although he had asked for one on each occasion. Each time he was advised that the springs were on order but none were available.

The company contends that Bowlin could have prevented the accidental operation of the gun if he had used a rubber band in place of the safety spring or had held his hand over the barrel of the gun. The record indicates that there was an instruction course given to the employees, which included Bowlin, as to the use and precautions when the safety spring was not available. Bowlin, however, denied that he had ever been told of these alternative safety measures.

Company contends further that had Bowlin been wearing his rivet mask on his face at the time of the injury the accident would not have occurred. Bowlin claims, however, that the eye protection was to be secured only when work such as filing or grinding caused small particles to be flying in the air.

Contributory negligence is not a defense to a claim. The fact that Bowlin may have been negligent would not prevent a recovery under the compensation act. An award for increased compensation was allowed because the employee was injured as a result of serious and willful misconduct of the company in failing to provide adequate safety guards and failure to instruct worker what to do when the usual safety devices were not available.

Vega Aircraft Corporation vs. Industrial Acc. Commission

January 27, 1947

176 Pac. Rep. 2nd series, page 947

Court of Appeals, Calif. Jan. 27, 1947

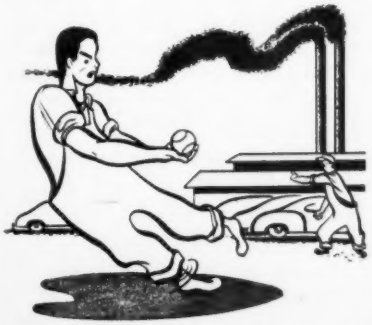
DO YOU KNOW THE FACTS OF LIFE
-AND DEATH-
ABOUT LADDER SHOES?
THIS simple testing device will help you learn them — readily and safely.
Upon request, we will send you drawings and full instructions for making this cheap and convenient testing device.
It will enable you to make comparative tests of different ladder shoes and ladders without shoes, quickly and safely, in your own plant, under your own conditions.
We'll also gladly lend you a pair of SAFE-HI Ladder Shoes for the tests, without obligation.
Test and learn the facts and you'll insist on SAFE-HI on all your ladders.
Ask your safety dealer or write us.
Safe-Hi PRODUCTS
Rose Manufacturing Co.
1731 Arapahoe St. Denver 2, Colo.

Injured During Lunch Hour While Playing Ball

THEBERGE was employed by the Public Service and Gas Company as a gas regulator man. His duties consisted of the regulation of gas devices and painting gas holders.

On the date of injury, during the noon lunch period, employees of the company started a ball game on the company auto parking lot which was paved with asphalt. Neither the company nor the players provided any bases or base lines and there was no base running. The game consisted of a batter hitting the ball, after which the various players engaged would field it and throw and catch the ball among themselves before returning it to the batter.

Theberge had been playing about ten minutes when one of the other players threw the ball to him. After catching it he twisted and fell to the



asphalt, fracturing his right leg. A few weeks later he died as a result of the accident.

The decedent was not hired or employed by the company as a ball player and the matter of an employee's ball-playing ability was not considered on his hire or discharge. The ball playing was started by the employees with their own equipment during leisure time in the noon lunch period.

The ball playing was the motive for decedent's movements at time of his injuries and not the duties of his job as a gas regulator man. The risk of injury and the injury itself arose out of the ball playing, not the job. The employer provided a recreation room for the employees who wanted to stay around the premises during their lunch hour and when Theberge played ball on asphalt during his leisure time, he placed himself in a dangerous position by his own choice. Claim denied.

Theberge vs. Public Service Electric & Gas Company
Dept. of Labor Worker's Compensation Bureau, New Jersey
February 3, 1947
51 Atlantic Reporter, Second Series

THERE IS NO CHARGE FOR
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IF industrial skin irritations are among your problems, let us send you literature and a generous sample of Tarbonis. In many a plant in your industry Tarbonis (liquor carbonis detergens in a vanishing type cream, odorless, greaseless, non-staining and non-soiling) has proved a remarkable aid against reactions from many irritants and reagents used in industry. Leaves no trace upon the skin, does not interfere with work. It may solve your problem, too.

Send for a sample of Tarbonis NOW.

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Formaldehyde
Sodium Bichromates
Lime
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Urea and Phenol Plastic Compounds
Brine
Acid-Type Foods
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- No possibility of electric shock.
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- Quick adjusting, molded fibre headgear.
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- Available with quick change, coverplate, metal lens holder.
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Turretype
WELDER'S HELMET

Practical, high quality protection. Dockson designed for maximum comfort, safety and economy.

Write for our complete welding and safety catalogs.

Several desirable distribution areas available.

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DO YOU PROVIDE *Corrective* Safety Glasses?

A survey by the National Society for the Prevention of Blindness, Inc., of industrial practice shows that industry as a whole fails to realize the extent to which production and safety depend upon better understanding of "Industrial Vision."

Plants who are supplying their workers with prescription-ground safety glasses are finding that the resulting production advantages are so great that the cost of the glasses is negligible.

If the purchase of the glasses is left to the worker and he does not choose to buy them, the employer must be content with less production, more spoilage, and greater labor turnover. Without needed glasses, a man cannot do his best work. Some companies pay part of the expense of supplying prescription lenses. In other instances, the expense devolves entirely on the individual workers needing them, usually under a financing plan underwritten by the company.

Provision of Individual Equipment

Goggles (or other personal protective equipment) are the MUST of eye protection. Even if guards are used at the source — for example, grinding wheels — goggles should still be worn by the worker because he might be in range of another grinding wheel which might not have a guard.

Lenses are available which resist heavy impact; cut off harmful radiation from high-temperature operations; cut down glare of visible light; shield from toxic fumes, acids, etc. The cost of providing every exposed worker with eye protection is a very small investment when compared with the amount of compensation paid on eye injuries each year. Ordinary safety goggles — safety goggles with safety lenses—and other protective equipment definitely pay high dividends because they not only reduce eye injuries, but they increase production and reduce spoilage.

The National Society For The Prevention of Blindness, Inc., have prepared an "Industrial Eyesight Protection Appraisal Form" which is shown below. This "Self-Appraisal Form" if checked by a qualified person, will quickly show any deficiencies in the plant safety-production program. Copies of the form may be obtained upon request from the Society as well as special assistance on any problems peculiar to individual plants.

INDUSTRIAL EYESIGHT PROTECTION APPRAISAL FORM

Name of concern: ..... Address: .....
Executive in charge of safety: ..... Date: ..... No. .....
Principal products: ..... Total employees: .....

Section A—Administrative Program

1. Is General Medical Supervision:
1. ( ) Complete
2. ( ) Partial

2. Is Industrial Nurse Available for:
1. ( ) Plant service
2. ( ) Home service

3. Do First-Aid Facilities Include:
1. ( ) Hospital room
2. ( ) Eye fountains or showers
3. ( ) First-aid kits

4. Does Health and Safety Education Program Include:
1. ( ) Instruction on eye health
2. ( ) Instruction on eye safety

5. Are Special Eye Services Made Available Through Use of:
1. ( ) Eye physician (ophthalmologist)
2. ( ) Optometrist
3. ( ) Optician

6. Is Screening Test for Acuity Only Given to:
1. ( ) All employees
2. ( ) Employees in selected occupations only

7. Is Screening Test for Acuity and Other Visual Functions Given to:
1. ( ) All employees
2. ( ) Employees in seleced occupations only

8. Is Screening for Occupational Vision Done Under Direction of:
1. ( ) Eye physician
2. ( ) Optometrist
3. ( ) Plant physician
4. ( ) Nurse or other trained person

9. Is There Periodic Recheck of Occupational Vision:
1. ( ) All employees
2. ( ) Employees exposed to special hazards
3. ( ) Employees with poor production record
4. ( ) Employees involved in accidents
5. ( ) Where original screening disclosed need for follow-up

10. Is Periodic Examination Made by Eye Physician for:
1. ( ) Radiation exposure (welders, etc.)
2. ( ) Exposure to toxic fumes or gases
3. ( ) Systemic toxic exposure
4. ( ) Follow-up of discovered defects

11. Are Prescription Lenses Provided by:
1. ( ) Company, for all employees
2. ( ) Company, for only employees in hazardous work
3. ( ) Employee with company assistance
4. ( ) Employees alone

12. What is Source of Prescriptions for Lenses:
1. ( ) Personal reading prescription
2. ( ) Refraction made in the plant by company examiner (work distance)
3. ( ) Refraction made outside by other qualified person at direction of company (work distance)

13. Is Job Analysis for Occupational Vision Made with Cooperation of:
1. ( ) Eye physician
2. ( ) Optometrist
3. ( ) Other person trained in subject

14. Does Illumination Conform to "American Recommended Practice of Industrial Lighting"?
1. ( ) Yes 2. ( ) No
3. ( ) Don't know

Section B—Protective Program

15. Have Hazards Generally Been Guarded at the Source:
1. ( ) Yes 2. ( ) No

16. Do Accident Reports Include:
1. ( ) Results of eye test of all principals
2. ( ) Quality of illumination at scene of accident

17. Are Any Employees Engaged in Operations Where the Wearing of Goggles or Other Eye Protective Equipment is Desirable:
1. ( ) Yes 2. ( ) No
(If answer to No. 17 is "no," disregard the remaining questions)

18. Are There Rules for Wearing Goggles:
1. ( ) Yes 2. ( ) No

19. Do Rules Apply to:
1. ( ) All, including officials and others when in plant
2. ( ) Workers only
3. ( ) Persons exposed to special hazards only

20. Is Wearing of Goggles Enforced by:
1. ( ) Warning
2. ( ) Discharge
3. ( ) Discipline
4. ( ) Committee action

21. Is Every Exposed Worker Supplied with Individual Goggles:
1. ( ) Yes 2. ( ) No

22. Are Ordinary Goggles Fitted for Comfort:
1. ( ) By optician
2. ( ) By trained person
3. ( ) Other

23. Who Fits Prescription Goggles:
1. ( ) Optician
2. ( ) Trained person
3. ( ) Other

24. Are Prescription Goggles Fitted on the Worker at His Job:
1. ( ) Yes 2. ( ) No

25. Are Local Lens-Cleaning Kits in the Plant:
1. ( ) Yes 2. ( ) No

26. Is Individual Equipment Regularly Reconditioned:
1. ( ) Monthly 2. ( ) Quarterly
3. ( ) Currently 4. ( ) No

27. Is Individual Equipment Sterilized:
1. ( ) Monthly 2. ( ) Quarterly
3. ( ) No

28. Is Equipment Sterilized Before Reissue:
1. ( ) Yes 2. ( ) No

From the pamphlet entitled "Manual and Appraisal Form on Conservation and Utilization," National Society for the Prevention of Blindness, Inc.

TECHNICAL FILE ON INDUSTRIAL DUST HAZARDS

SAVE THIS VALUABLE REFERENCE MATERIAL: BUILD UP A PERMANENT OFFICE FILE

B141. MISCELLANEOUS PNEUMOCONIOSES. Many investigators maintain that inorganic dusts are the only true pneumoconiosis producers, and that lung troubles from other dusts belong in different categories. However, even true pneumoconioses are not all dangerous. *Anthracosis*, for example, usually represents an uncomplicated pigmentation of lungs with carbon deposits from soot or coal dust exposures. Other inert inorganic dusts similarly lie as pulmonary deposits for years until complicated by respiratory affections. The inert group includes carbon, iron, calcium, carborundum, barium, tin, and aluminum, the metals being radiopaque or visible on X-ray film. Shortness of breath is a usual symptom of deposit. *Baritosis*, a deposit from barium dust, has fibrotic X-ray patterns but no nodulation of the lung root glands. Tin dust, however, sometimes shows nodular markings. Artificial abrasives like carborundum and aluminum oxide show no lung changes visible by X-ray.

B142. SARCOIDOSIS. This lung tumor condition has been found in workers exposed to high concentrations of certain beryllium compounds. Irritation from the metallic dust is also called *berylliosis*, and is thought due not to the metal itself but to compounds it forms with fluorine, chlorine, etc. Lung damage is generally similar to the result of lung exposure to phosgene or chlorine gas.

B143. TNT SICKNESS. The affection occurs in young, new workers exposed to air containing TNT dust (or vapors from Molten TNT). The common type of contact cause a skin rash. Inhaling sufficient quantities of the dust, however, can be fatal even after comparatively mild symptoms, a condition especially likely among workers with a history of stomach trouble. Any absorption through lung cells discharges directly into the blood stream. Signs of over-exposure are sneezing, watering of the eyes, dryness of throat, catarrh, a persistent cough, fatigue, blueness of lips, and general pallor. This is followed by headache, stomach pains, pains in the legs and feet, and vomiting. Urine becomes pink or brown and intolerance to alcohol is marked. Quick removal from exposure and immediate treatment by a competent physician will help avoid fatalities. Prevention measures include non-placement of minors in TNT work, periodic examinations for stomach disorders, and education of workers to the hazard as well as to poisoning symptoms to look for. For environmental control, it is important to enclose, isolate and exhaust processes, to provide good workroom ventilation, and to sample air frequently for contamination. Workmen should be provided face masks, gloves and changes of uniform.

B144. ORGANIC DUST REACTIONS. Industrial pulmonary affections not generally considered as true pneumoconioses but with X-ray patterns resembling those of silicosis are usually caused by organic dusts. *Byssinosis* has been reported from English and New England textile mills as a disease with permanent asthmatic disability caused by prolonged or allergic exposure to high concentrations of cotton fibers. *Byssophthisis* is the name given chronic pneumonia from cotton mill dust. Simple asthma is the usual reaction of allergic workers to high cotton dust concentratoins. The disease is marked by recurrent attacks of shortness of breath, and is attributed to irritations in bronchial tubes or to reflex spasms in the diaphragm.

B145. BAGASSOSIS. The sugar-cane industry has a waste product called "bagasse" now used in shredded fiber form as material for board fabricating. It contains some protein, plus as much as 7% silica. A disease called bagassosis can follow one or two months' exposure to this material. It resembles an influenza-type pneumonia marked by violent cough, shortness of breath, a bluish cast to the skin, and mild fever. The disease sometimes has an allergic aspect, and may leave a residual tissue-scarring or fibrosis.

B146. RESPIRATORY FUNGUS INFECTIONS. Among lung diseases more rarely found in industry, but still often listed as industrial pneumoconioses, are fungus infections of the respiratory tract. These resemble silico-tuberculosis in X-ray examinations. They are associated with certain industrial dusts hazardous to tobacco workers, straw handlers, grain handlers, stock handlers, tea factory workers, sponge cleaners, wigmakers who employ rye flour for degreasing, agricultural workers, handlers of pigeons, parrots, grapes, nuts, died fruits, etc.

B147. MOLD SPORES. Fungi and yeasts are as varied as bacteria. They consist of minute budding or filamentous plants without leaves, stems or roots. Being without the necessary structure for getting food from carbon dioxide in the air, they survive by attaching to living or dead organisms, and are called parasites or saprophytes respectively. Found not only in soil, on grasses, woods, plants, etc., they are also air-borne as hardy, minute spores in organic dusts surrounding livestock or agricultural products, or distributed throughout certain processing industries. Those dangerous to human life have similar reactions when they invade the respiratory tract, being confused in appearance with both silicosis and tuberculosis. They can be differentiated only by a skilled diagnostician after repeated, well-controlled tests of the sputum.

Pulmonary infections are caused by the following yeast-like fungi most frequently, with the disease taking its name from the invader: blastomyces, monilia, coccidiodes, cryptococcus, endomyces and saccharomyces. Of the mycelia (filament-type fungi), the most common dangers are from spores of aspergillus, actinomyces, sporotrichum, and penicillium (common mildew). "Wheatena", a spotted calcification of the lungs found in grain workers, has been variously identified as aspergillosis, a similar calcification. Unlike the usual action of spores in attacking first the skin and/or mucous membranes of the respiratory tract, aspergillus makes a primary attack on deeper structures.

B148. PREVENTION AND CONTROL. Standards of safe dust concentrations (threshold limits) for various dust hazards are neither uniform throughout the states nor all-inclusive. It is as yet impossible to determine, even for a specific industry under unchanging conditions, at what concentration workers will invariably begin to develop cases of silicosis, asbestosis, fume fever, lead poisoning,

TECHNICAL FILE ON INDUSTRIAL DUST HAZARDS

SAVE THIS VALUABLE REFERENCE MATERIAL: BUILD UP A PERMANENT OFFICE FILE.

etc. Controls to date consist of keeping the workroom air reasonably clean, with only general results being on record. "Acceptable" has been the yardstick, indicating workroom or process air that does not affect the average worker toxically. Early in the century, for example, after years of trial and error, the "South African Standard" of dust control in gold mines became the "accepted" safe concentration: one milligram of dust per cubic meter of air.

B149. SAFE SILICA DUST CONCENTRATIONS. D. E. Cummings, when a member of the Saranac Lake Laboratories, suggested a safe concentration of pure silica dust as not over five million particles per cubic foot of air. L. U. Gardner of the same organization later followed with a report that other components of a dust may so modify its action as to inhibit, retard, or even prevent injurious effects from the free silica present, regardless of the particle size or quantity. The factor is particularly true in the case of dust components like gypsum. These appear to combine with silica particles in the air to form clumps too heavy to remain suspended and too large to pass barrier mechanisms of the nose of upper breathing channels.

B150. THRESHOLD LIMITS. The following threshold limits of safe dust concentrations have been variously recommended and appear to have considerable industrial acceptance:

1. For high concentrations of free silica or asbestos: five million particles per cubic foot of air. (U.S. Public Health Service.)
2. For coal dust: when mixed with less than 5% free silica, 50 mppcf.; when mixed with less than 13% free silica, 10 to 15 mppcf.; when mixed with 35% or more free silica, 5 to 10 mppcf. (R. R. Sayers, and U.S. Public Health Service.)
3. For lead dust: less than 1.5 milligrams per 10 cubic meters of air is safe, more than 5 mg. is a lead hazard. (American Public Health Association.)
4. For zinc oxide: over 14 mg. per 10 cu. meters of air for eight hours' exposure, or over 48 mg. for short exposures, represent a metal fume hazard. (Philip Drinker.)
5. For manganese: less than 50 mg. per 10 cu. meters of air is safe. (Philip Drinker and Theodore Hatch.)
6. For cadmium, mercury, and chromium compounds: less than one mg. per 10 cu. meters of air is safe. (Various states.)
7. For arsenic trioxide: less than five mg. per 10 cu. meters of air is safe. (U.S. Public Health Service.)
8. For mixed dusts: the following table gives probably unsafe dust concentrations (as established by various states) in organic and inorganic categories:

HAZARD	PROBABLE UNSAFE CONCENTRATION	DIAGNOSTIC SIGNS
	(Million Particles in Cu. Ft. Air)	
(a) Inorganic Dust Containing Free Silica, i. e., quartz, flint, granite, pottery, etc.	Total count times % silica=5 (Kansas, Minn., Okla., Wisc.) Less than 10% silica=50, more than 10%=10 (Idaho) 25-35% silica=10, over 75%=5 (California, Colorado) Over 90% silica=5 (Conn.) Total dust=50 (Okla.)	Cough, shortness of breath, pleuritic pains, deficient chest expansion, dullness, diminished resonance, colds. pleurisy, tuberculosis.
(b) Inorganic Dust (except asbestos) Contaning No Free Silica, i.e.:		
Alundum	15 (Okla.)	Non-specific, benign fibrosis, not associated with disability.
Carborundum	15 (Okla.)	
Cement	15 (Calif., Col.)	
Feldspar	10 (No. Car.)	
Mica	10 (No. Car.) 50 (Mich.)	
Pyrophyllite talc	10 Mining, 25 Milling (No. Car.)	
Silicates	15 (Okla.)	
Slate	15 (Calif., Col.) 50 (Mich.)	
Talc	15 (Calif., Col.) 50 (Mich.)	
(c) Asbestos	5 (So. Car.) 15 (Calif., Col., Mich., No. Car., Okla., Penna.)	Cough, shortness of breath, pallor, clubbing of fingers, less chest expansion.
(d) Organic Dust (i.e., coal, textile dust, flour, sugar, wood, leather, feathers, plants, wool, etc.)	50 (Mich., Calif., Col.)	Irritation of skin and upper air passages; allergic effects; asthma.

Recommended by Industrial Hygiene Units of States Named

(To Be Continued)

Recommended by Industrial Hygiene Units of States Named

(To Be Continued)

8. For mixed dusts: the following table gives probably unsafe dust concentrations (as established by various states) in organic and inorganic categories: (U.S. Public Health Service.)

The Pay Off

Each month Occupational Hazards magazine plans to select one or more outstanding safety plan in some industry that has paid off in a dollars-and-cents return attributed directly to reduced compensation costs or indirectly to uninterrupted production of indispensable personnel.

Company ledgers too often have no provision in their columns for this investment of time and effort.

Accidents on stairways are a thing of the past at the House of Lance. They do it with mirrors, but it's still a good trick!

BY A. L. BECHTOLD
Personell and Public Relations Director
THE HOUSE OF LANCE
Charlotte, N. C.

INDUSTRY has for many years been challenged by the number of both minor and serious accidents that occur on stairways. This problem has given headaches to more than one safety man and our plant was no exception.

At the House of Lance, confectionary specialists, we averaged approximately one accident a month on our many stairways. Many of them resulted in only a sprain, but a good number resulted in fractures of one sort or another. The majority of them were "lost time" accidents.

We operate under a Multiple Management Plan, and six months ago a suggestion was submitted to eliminate some of our stairway accidents. It consisted merely of placing mirrors on stairwells opposite the steps. Looking into a mirror can prevent a sprained limb or a broken neck. When a person comes into view of the mirror, a combination of factors seem to make him put that ten second halt on the rapid climb or descent of stairways. We have found that people almost always stop instantly or slow down so that they make take a last look at themselves.

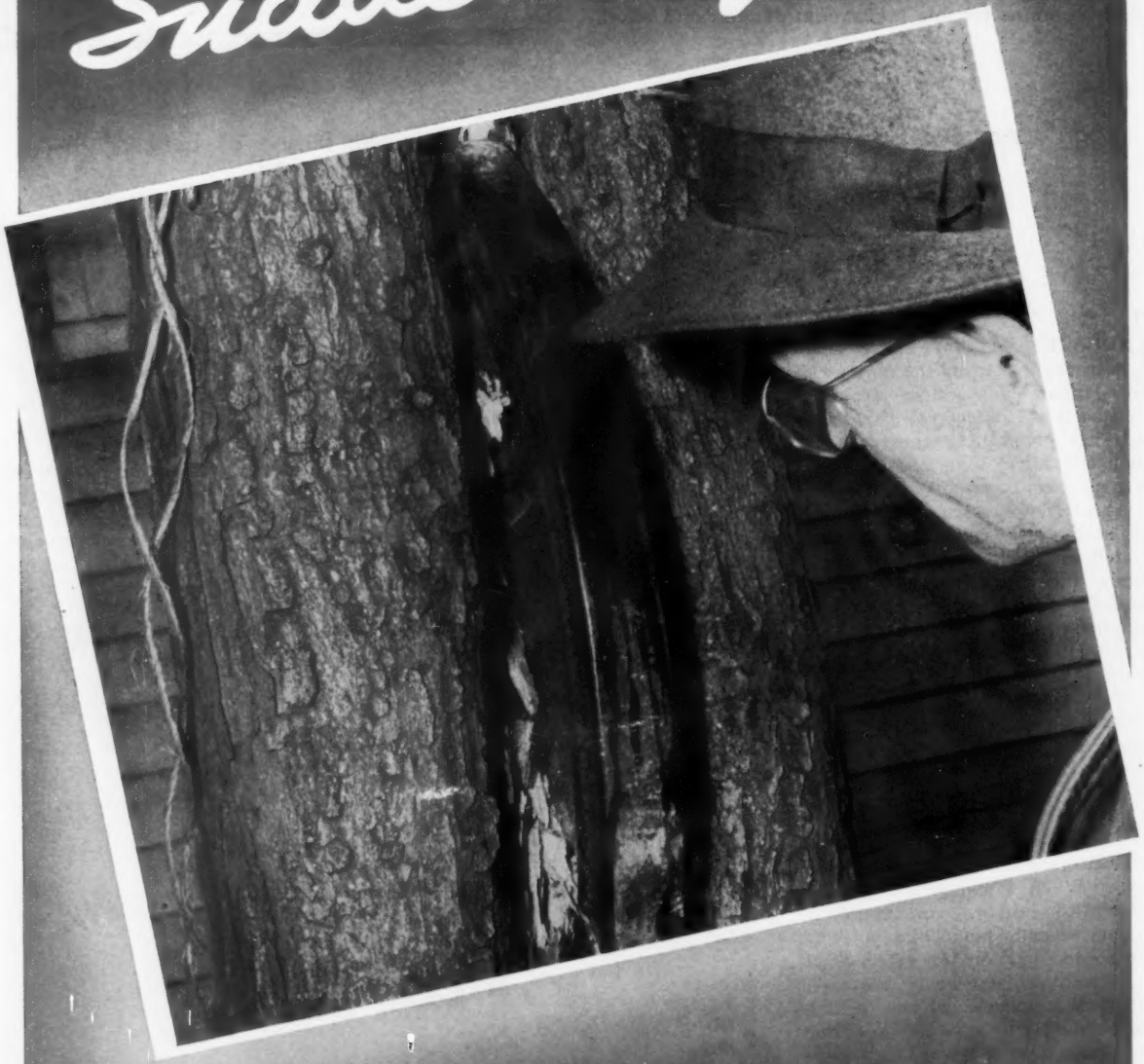
We have a large number of women in our organization and the mirrors seem to say to them, "Give yourself one last look." But men take advantage of these mirrors as well and do the same thing—slow down on the staircases.

A survey shows that during the six months the mirrors have been installed, not a single accident, strain or sprain has happened to either men or women of the organization.

Lance executives and members of the Plant Board feel that these mirrors have done a splendid safety job in eliminating some of our minor accidents. Of course, every stairway should be well lighted as a prerequisite to placing mirrors, but we feel that any organization, whether large or small, can place mirrors at the landings and virtually eliminate the hazards of falling down steps. Though it may seem a simple operation, it has been done and is doing a swell job for the House of Lance in Charlotte, North Carolina.

Employees of the House of Lance look into one of the mirrors which have apparently eliminated accidents due to falling down stairways.

. . . And Sudden Injury



Here is the end of the trail for a killer. Not a gun-brandishing brigand, but a balance wheel, imbedded eight inches in a tree standing fully two city blocks away from the wheel shaft. It was a devastating force that propelled the wheel off a machine, through a passing street car, and into this tree a thousand feet away. The blood of its victim still shows on the rim.

AND SUDDEN INJURY

"HE NEVER knew what hit him!" Those words have been used often to describe a fatal injury. There is a tinge of regret accompanying the observation, a pity that the worker should have departed this life unaware of the reason. But there is also a suggestion that it is more merciful thus. There is no pain.

The balance wheel that tore loose from its arbor in a mid-western industrial city to knife through a passing street car brought instantly fatal injury to the motorman. It clipped him across the head and whirled on down the street for two blocks. "He never knew what hit him!" That's what the machine operator said in a dazed way to his buddy as they watched the wheel on its mad course. They had miraculously escaped injury themselves. There was no pain for the motorman: he never knew what hit him.

Small comfort for his survivors. Like the old bromide, "It could have been worse." The wheel might have killed a few more before its momentum was checked. Children were playing in the street along its path. There were passengers on the street car. There was a house with people in it behind the tree in which it finally buried itself.

But the wheel could have been stopped before it got started. Not just with an extra check of the wood-cutting machine before it got going, but with a guard on the balance wheel. Wood-working machinery does not come guarded against accidents. Guards usually come on special order, to be made according to specification. They are installed frequently after the machinery has been in operation for some time. In many cases they are never installed. Safety engineers have to fight for them.

Even huge punch press flywheels have been known to come off. Guards act to protect workmen not just from moving machinery but from breaks as well. Substantial guards have kept press flywheels from dropping to tear holes in floors and walls. The least guards can do is to slow down some madly revolving force and give warning to nearby workmen.

Take time off to go through your plant some day just for a guard check. How many have you sufficiently strong to encase a fly wheel? How many are laid aside, doing no good? How many are still needed? It may be a life-saving inventory. It need never be said at your plant that "he never knew what hit him."

Genuine PLY-GARB CLEAR PLASTIC APRONS

FOR MEN OR WOMEN

A new low price for these large, 24 x 36, eight gauge clear plastic aprons that are acid, alkali, oil, water and flameproof. The same apron in twelve gauge, $18.00 per dozen. Reinforced grommets. Other sizes available at comparable low prices.

Manufactured and guaranteed by the makers of PLY-GARB protective clothing.

PLY-GARB also available in brown or white plastic coated cloth.

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Write For Our New PLY-GARB Catalog

$15.00 DOZEN

THE MILBURN CO.
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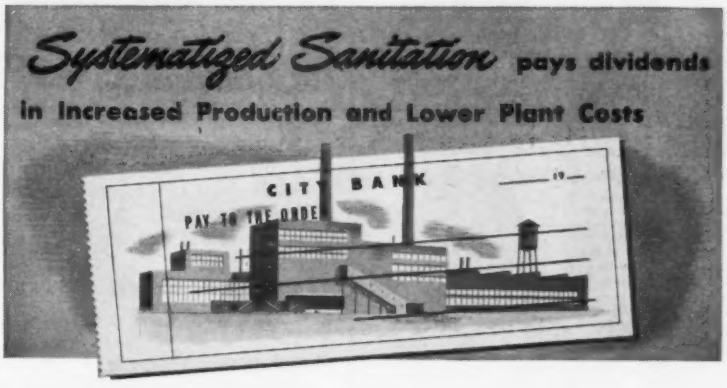
Systematized Sanitation pays dividends in Increased Production and Lower Plant Costs



Today, with the lowering of costs so essential to every business, Gerson-Stewart's simple plan of Systematized Sanitation effects a double saving. Manufacturing and maintenance costs are reduced, production is increased and your plant becomes a safer, healthier and more orderly place in which to work. Write today for our latest illustrated booklet.

Systematized Sanitation enables your present labor to do more tasks—better!

SYSTEMATIZED SANITATION

The GERSON-STEWART Corp.
LISBON ROAD · CLEVELAND, OHIO

Between the upward pressure on wages and the downward pressure on prices, PRODUCTION is the only "out" and every factory purchase should make it *easier* for the worker to produce. In safety apparel, safety alone is not enough. Comfort in wearing, ease in use, lessened fatigue . . . shrewd safety buyers *insist* on these qualities. For years, Steel-Grip Work Handlers have been designed on the fundamental premise of protection *plus* production. You see it in the careful selection of materials, in the painstakingly worked out design and assembly of Steel-Grip Work Handlers, in the refining touches that make a world of difference on the job. The Steel-Grip line is broad and comprehensive. If it doesn't have what you want, we'll make it. Write for a catalog today.

Standard Steel-Grip Finger Guard

No. 14314—Designed for use on small punch press work, buffing, burring, grinding, inspection, etc. Tough flexible leather with elastic webbing back. Eliminates minor but costly finger injuries. Special quantity discounts.

Cable Former's Glove

No. 15256 — Fingerless, open back guard providing excellent protection across palm. Used with great success on all cable pulling jobs. May be had rights only or lefts only as desired.

Chrome Leather Glove

No. 633—Meets practically every heavy duty requirement; especially suited for handling scrap. Palm and fingers reinforced with steel ribbons diagonally staggered. Steel stitched throughout.

Heat Resistant Mitten

No. 14730—Made of special tanned leather—jumbo size for utmost in ventilation and coolness. Wool lined. Easy on and easy off.

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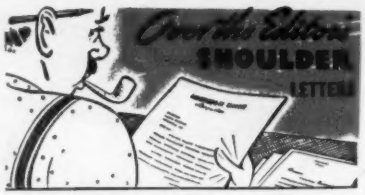


Do you have any questions, theories or ideas concerning industrial health or safety? If you want to give them a good airing—send 'em along. We'll publish all space permits.

Reprints Wanted

OCCUPATIONAL HAZARDS:

In order that we might make proper distribution to our key personnel of two articles which appear in the March issue of your publication, "Chemical Solution Extinguishers" and "Air Tanks as Explosion Hazards," we will need approximately one hundred copies of each.

Do you have reprints of these two articles and if not, may we have permission to reprint for distribution throughout our own company with proper credit being given. If reprints are available, please quote prices in your reply.—H. T. Markee, Safety Director, Phillips Petroleum Company, Bartlesville, Okla.

No more reprints available, but you are welcome to reproduce this material.—Ed.

Flame-Proof Curtains

OCCUPATIONAL HAZARDS:

I would like some information on slow burning canvas curtains that could be used as a temporary set-up or fire retardant.—R. V. Bradley, Government Inspector, Toronto, Ont., Canada.

Information forwarded.—Ed.

Dust Hazards

OCCUPATIONAL HAZARDS:

I would like to get a copy of your article "Technical File on Industrial Dust Hazards," page 17 of the April issue of OCCUPATIONAL HAZARDS, which is very informative and concise.—Arthur O. Steenburg, Medical Dept., Bethlehem Steel Company, Baltimore, Md.

Tear sheet forwarded.—Ed.

Safe Practices

We would be pleased to receive twelve copies of the article "Safe Oxy-Acetylene Practice at the Ford Motor Company" which was in the December issue of Occupational Hazards.—S. J. Aita, II, Safety Engineer, Rohm & Haas Company, Philadelphia.

Tear sheets forwarded.—Ed.

Power Press Safety

OCCUPATIONAL HAZARDS:

As Safety Engineer of the Underwood Corporation at Hartford I would very much appreciate your being kind enough to extend us permission to reprint articles on "Tips on Power Press Safety" which appeared in your January and March issues. We have found the information contained therein to be very helpful, and would like to make about twenty-five reprints, which we will distribute to our various press departments.—A. W. Beyer, Safety Engineer, Underwood Corporation, Hartford, Conn.

Go ahead.—Ed.

Good Reading

OCCUPATIONAL HAZARDS:

We appreciate receiving the publication "OCCUPATIONAL HAZARDS" and find it very interesting and of educational worth. Would you kindly change the name of the addressee to read James McCollum, Superintendent, so that it will reach the proper person directly.—C. H. Letzring, Personnel Manager, American Broach & Machine Company, Ann Arbor, Mich.

Will do.—Ed.

Goggles

OCCUPATIONAL HAZARDS:

The article, "Your Safety Department Must Fit Goggles to Your Hazard," in the March 1947 issue of your magazine was read with considerable interest.

One item which struck our particular attention was the reproduction of the wood cut of the chemist with 19th century goggles. We are interested in learning whether it would be possible for us to obtain a negative or a print of this picture for use with our goggle program.—Earl R. Wallace, Safety Engineer, Eastman Kodak Company, Rochester, N.Y.

This photo is from the Bettmann Archive, NYC.—Ed.

Metallizing

OCCUPATIONAL HAZARDS:

The Research Committee of the New Jersey Chapter, A.S.S.E. is preparing a data sheet on the subject of metallizing. We would appreciate any information you may have in your files on this subject and could send us.—Wm. D. Renner, Chairman, Research Committee, A.S.S.E., Bloomfield, N.J.

Information forwarded concerning work procedures and precautions necessary.—Ed.

For further information on any of these products, simply list the key number at the foot of each item on the special post card enclosed with this issue.

PROTECTIVE APRONS—The Industrial Products Company, Philadelphia, has designed a new line of aprons and sleeves said to protect workers from most acids, caustics, oils and solvents. Made of clear, frosted plastic material, the apron is

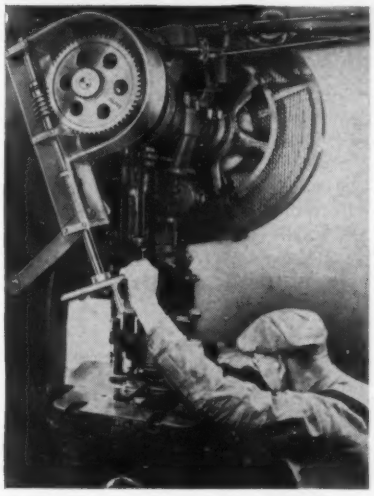
claimed to be light, flexible and comfortable, yet at the same time resistant to snagging, abrasion or wear. Aprons are complete with 14" sleeves fitted with adjustable elastic bands at both ends.

NP 140

GAS MASK CONTAINERS— The Acme Protection Equipment Company, Chicago, has just introduced a new carrying case for their Acme "N" and "FD" Full Vision gas masks. It is claimed that the new carrying case eliminates possible distortion of face piece, protects the dead air check valves and prevents damage to lenses during transportation.

NP 141

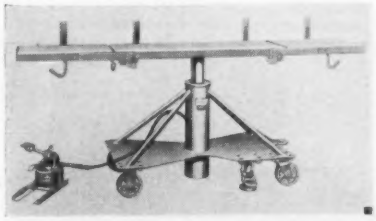
PRESS SAFETY—The All American Safety Equipment Company, Chicago, has developed a device called the



"Big Little Inch" for lowering a press ram and inching it into proper position for die setting. The device is said to remove all safety hazards for the die setter, to help eliminate die damage, save die setting time, and to require less physical effort.

NP 142

HYDRAULIC TABLE—For safe feeding of strip or sheet metal to shears, rolling mills, punch presses and similar applications, Lyon-Raymond Corporation, Greene, N. Y., offers a specially adapted portable hydraulic table. The elevating feature is



claimed to enable a machine operator to keep stock at the desired height while feeding into dies or shears and thus to eliminate awkward and unsafe manual handling or bending of stock.

NP 143

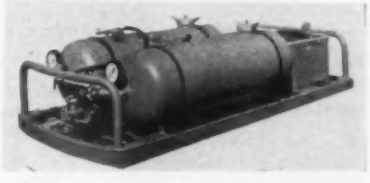
EAR DEFENDERS—The Mine Safety Appliances Company, Pittburgh, announces the Ear Defender, a device claimed to filter out excessive noises

while permitting speech and warning signals to be heard. It is said to reduce loudness of sound to about 1/10 the former level.

The tapered tube devise is molded from soft, non-toxic, elastomeric material with an outer flange to prevent it from entering the ear too far. Sold complete with carrying case, it is reported comfortable to wear, sanitary, and easy to insert and remove.

NP 144

FIRE-FIGHTING APPARATUS—The Fyr-Fyter Company, Dayton, Ohio, has recently developed the Instant Mine Fire Car, a mobile, flexible piece of fire apparatus, supplementing both portable and permanent installations. This equipment was designed primarily to fighting mine fires, but is readily adapted to warehouses, factories, foundries and the like. The chemical used is Karbaloy, which is claimed to fireproof sur-



faces with which it comes in contact.

The apparatus is equipped with 100

feet of hose and is said to throw a stream from 40 to 50 feet. Refilling is simply a matter of pouring in the chemical as shipped from the factory.

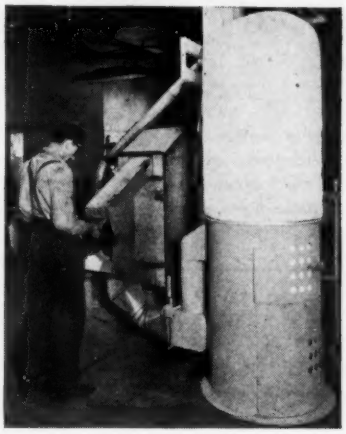
NP 145

SYNTHETIC APRONS—The Acme Safety Products Company, Toledo, has recently developed a synthetic material which it will use in ACME SURSAFE aprons and clothing. This material is virtually unaffected by any known acids, oils, solvents, fluids, paints or chemicals. This same synthetic is used in another form to line pickling and plating tanks. ACME SURSAFE aprons are made in three standard weights and sizes. Special sizes or designs can be made to specifications.

NP 146

DUST CONTROL UNIT—The Kirk & Blum Manfacturing Company, Cincinnati, is placing on the market a new self-contained dust control unit. This new unit is said to meet the needs of both large and small plants where layouts require the placing of one or more machines in buildings not served by the central dust control system, or in isolated parts of the main plant building.

The dust collector can be set up anywhere to serve any machine for as brief or as long a period of time as needed. The self-contained unit



will handle sawdust and shavings from woodworking machines, grinding, buffing and polishing dirt from metal working machines and all similar dust sources.

NP 147

NON- SLIP GLOVES—The Riegel Textile Corporation, New York City, is placing on the market a new type work glove called the "Super Canton." Announced as "soft, flexible and water-repellent", the glove is claimed to have a non-slip surface that facilitates gripping and increases protection to the wearer.

NP 148

SANITARY PROTECTION— Especially adaptable for industrial plants is the new Tampax Dispensing Machine for women's rest rooms. Designed by Tampax, Inc., New York

City, to provide women with the best in emergency sanitary protection service, the vendor is a streamlined, all-metal machine finished in baked white enamel with chrome trim on lock and handle. Dispensing

LIKE A
GIANT
VACUUM CLEANER
Schmieg
CENTRI MERGE
Completely CLEARS YOUR PLANT OF
DANGEROUS DUST AND FUMES
Safeguard of employees' health—Security against fire—explosion—abrasion and corrosion of machines and manufactured products. That's CENTRI-MERGE in action—in foundries—machine shops—chemical laboratories—plastic plants—and the many other industries where dust and fumes are a menace to workmen and work. AUTOMATICALLY—by suction—contaminated air is cleared from working areas—carried on a powerful air stream through a descending curtain of water into the CENTRI-MERGE Colletion Unit, where all foreign matter literally is scrubbed and pounded out in a seething tornado of water. Air goes out the exhaust. Dust and dirt are flooded into a sludge tank beneath the Unit—under water—out of circulation for good.
Consult Schmeig engineers regarding your problems of dust and fume control.
THE best AIR PURGE is CENTRI MERGE
Schmieg INDUSTRIES INC.
Engineers & Manufacturers
203 PIQUETTE AVENUE • DETROIT 2, MICHIGAN

VICTORY SAFETY CAPS!

Washable

Cool

Stylish

51 GN

The spacious snood back of VICTORY Safety caps covers **all** the hair **all** the time . . . without cramming. Once they wear a **VICTORY** cap women want no other. They admire the fact they are washable and adjustable . . . love their coolness, light weight and stylish appearance. Blue, brown or white mesh, or solid materials to keep out dust. Also combination mesh and solid.

Also Complete LINE OF INDUSTRIAL WORK GLOVES, SPECIAL WELDER'S—LEATHER PALMS AND CANVAS. ALL STYLES OF INDUSTRIAL APRONS—LEATHER, RUBBER OR SYNTHETIC COATED - PLASTICS AND CLOTH.

IN CHICAGO: Universal Safety Equipment Co. 2921 N. Cicero Ave.

IN DETROIT: Averill Equipment Co. 6527 Hamilton Ave.

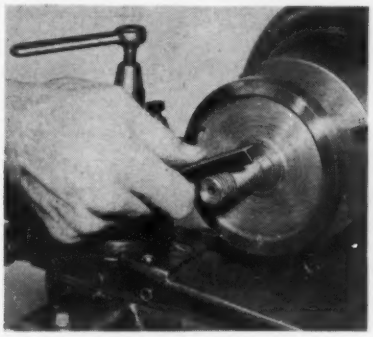
Send for full information

V. E. KENNEDY CO.
5004 W. Burleigh St.
Milwaukee 10, Wisconsin

25 individually sealed cylindrical tubes, each contains one Tampax and instruction for use.

NP 149

SAFETY IN GRINDING—The Sandusky Abrasive Wheel Company,



Kalamazoo, Mich., has developed a new product—Flexible Abrasive Sticks to safety grind, clean, or polish irregular and hard-to-get-at places. They are designed primarily to be cut and shaped on the job to fit the work at hand. The sticks are made of selected abrasive grains, bonded in rubber. They are reported to be easily and safely cut with a jackknife, file or grinding wheel.

NP 150

CAR DOOR OPENER

A necessity where freight cars are regularly handled. Pays for itself in short time.

Allows one man to open or close any box car door in a few seconds. Eliminates strained muscles, slips and falls, mashed fingers and other injuries due to binding doors.

One man instead of a gang, seconds instead of minutes or hours is all that is needed with the use of this tool.

Light in weight (15 lbs.) and easy to handle, yet built for the rough handling to which it is subjected in everyday use.

WRITE FOR BULLETIN H-77

IPCO
Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2830 N. FOURTH STREET • PHILADELPHIA 33, PA.

SAFETY REMINDER!

SURETY PATENTED **TURN-CUFF INDUSTRIAL GLOVES**

CUFFS UP

Liquids *can't* run inside gloves or onto the arms and clothing.

CUFFS DOWN

You get a two-inch longer protective gauntlet.

This *exclusive* safety feature is available in all Surety industrial gloves. Write for factual bulletins.

THE SURETY RUBBER CO.
CARROLLTON, OHIO

Get Your Copy
OF THIS *New* BULLETIN

On "SAFETY" Marking Tools
FOR ALL INDUSTRIAL PURPOSES

You need this *New Bulletin*—if you use or buy marking tools. All types of "Safety" steel stamps and dies are illustrated and described—for every marking purpose. Enables you to choose the *correct* tool for your marking application. Write today—we will gladly send the number of copies you desire.

M.E. CUNNINGHAM CO.
SAFETY STEEL STAMPS
91 E. Carson Street — Pittsburgh 19, Pa.

Hand Protection
and Extra Work-Ease

Neoprene
Stanzoils
with astonishing
new non-slip finish

It took hundreds of experiments to perfect the new positive-grip finish on Stanzoils — but it holds slippery objects as if dry, giving workers confidence and speed. Durable safety, too, for DuPont neoprene, as processed by Pioneer, lasts in oils, acids, many times longer than rubber — low cost per hour, prevents costly injuries. For better work and economy, write today for complete Stanzoil catalog.

STANZOIL PIONEER

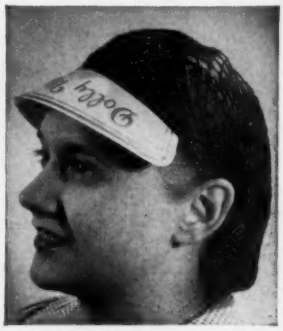
Synthetic Rubber Division

THE PIONEER RUBBER COMPANY
258 Tiffin Rd., Willard, Ohio, U.S.A.
Los Angeles

OVER 25 YEARS OF QUALITY GLOVE MAKING

PROTECTION
FOR YOUR WOMEN WORKERS

KORONET HAIR GUARDS



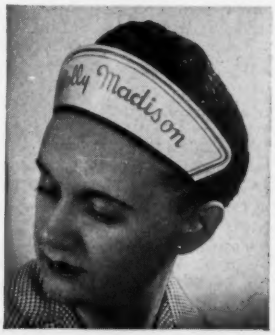
VISOR EYE SHIELD STYLE

Available once again . . . a pre-war favorite with post-war improvements. Preferred by all women workers. Features:

- Protection against loosened hair falling or getting caught.
- Neat attractive glossy Ethofoil Eye Shield is non-inflammable.
- Comfortably light, fits snugly, adjustable to any head size.
- Economical—no starching or ironing—pays for itself in laundering savings alone.
- Sanitary . . . allows for natural air circulation.

Added Advertising Value

Any trademark, name or slogan you desire can be imprinted on the shield in color.



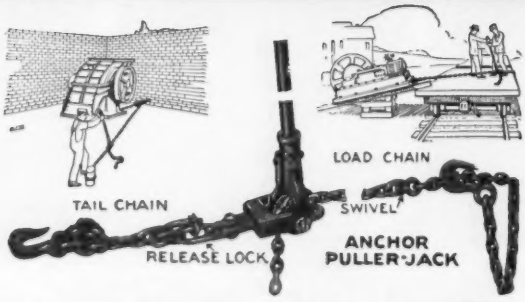
Some Newest Users of KORONET Hair Guards

Aluminum Seal Co. . . . Avondale Mills, Inc. . . . Canadian Cellucotton Co. . . . Chicago-Latrobe Twist Drill Wks. . . . I.T.&T. (Federal Telephone & Radio Corp.) . . . Firestone Tire & Rubber Co. . . . Gillman Engineering Works . . . Massillon Aluminum Co. . . Ecko Products Co. . . . General Elec. Co. (Ohio Lamp Works) . . . Ludlow Mfgr. Co.

FREE SAMPLES Write Dept. OC7 Today for Free Sample, Literature and Prices.

REGAL MFG. CO. 3203-05 ELSTON AVE., CHICAGO 18, ILLINOIS

One Man Moves 5 Tons with the ANCHOR Puller-Jack!

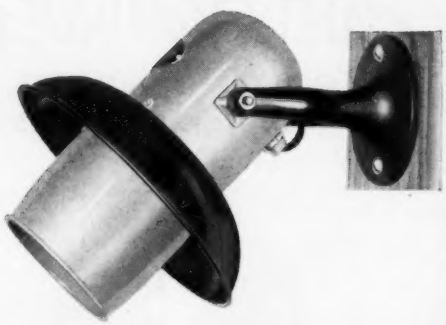


Here's a one-man gang that quickly repays its price in labor, time and money saved. Has 3 tons direct pulling power, or 5 tons with sheave block. Pulls 15 feet without changing hold. Can be operated upright, sideways or upside down, with lever pull away from load or toward it. Simple, strong, foolproof. Practically nothing to get out of order. Positive action, always holds. Compact, quick and easy to set up and use. Hundreds of uses for this powerful tool wherever heavy objects must be moved. Order an ANCHOR Puller-Jack today, or write for descriptive catalog.

Easily carried and operated by one man.

$57.50 F. O. B. Bowerston, Ohio. Jack complete with 3 ft. steel tube handle, 15 ft. load chain with slip hook, and release lock. Longer chains available.

THE MINING SAFETY DEVICE COMPANY
DEPT. OH • • • • • BOWERSTON, OHIO



FOR SAFETY

Use dependable Federal Heavy Duty Industrial Sirens. These are distinctive signals, of rugged weatherproof construction, especially fitted for use on electric cranes and other heavy moving equipment. A full range of sizes for every need.

Write for Bulletin 111

FEDERAL ELECTRIC CO., INC.
8735 South State Street
CHICAGO 19, ILL.

FIRE PROTECTION FOR INDUSTRY

A SECTION IN WHICH ARE PRESENTED THE VARIED SPECIALIZED PROBLEMS AND SOLUTIONS TO FIRE FIGHTING CONTROL AND PROTECTION IN INDUSTRY

Industrial Fire Prevention Picture of the Month 42
Meet The Chief 43
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Who Watches the Night Watchman? 46
Good Housekeeping is Good Fire Prevention 47
Safe Handling of Ammonia 47
Free Literature 48
Advertiser's Index 48

THE INDUSTRIAL FIRE PREVENTION PICTURE OF THE MONTH

In order to prevent the accumulation of static electricity while these drums of paint are on the mixing machine, the man at left is placing a ground protection in contact with the end of the drum. During the countless mixing operations that take place in industry it would take but a few seconds more to safeguard against static. A good ground is good industrial fire prevention practice anywhere, anytime.

MEET THE *Chief*

OCCUPATIONAL HAZARDS will bring its readers as a regular feature the true, inside story of an industrial fire, stressing HOW AND WHY IT HAPPENED. Each story will be told by the man who heads the fire department of a large city. These authentic accounts by men who devote their lives to fightinge fire and to the study of fire hazards are presented to the readers of OCCUPATIONAL HAZARDS in the belief that they will be of value to fire protection men in industrial plants throughout the country.

This month's guest writer is Chief James E. Granger of the Cleveland Fire Department. The chief joined the Department on St. Patrick's Day, 1894, and was made Chief on St. Patrick's Day, 1931.

THE INDUSTRIAL FIRE BRIGADE

By Chief James E. Granger, Cleveland Fire Department

DURING the war years it was my pleasure to assist in the training of over 700 fire-fighting brigades in the industrial plants of Greater Cleveland. I belive a trained an organized fire brigade is a "must" in every industrial plant's fire protection program if it is to prove successful. War contracts were awarded only to those plants who had these brigades. Their effectiveness is measured by the fact that during the increased production of war years there were fewer fires and less loss than today. Now government contracts are gone and many plants feel a well organized and equipped brigade too bothersome and expensive to trouble themselves with. *These plants, I feel, are overlooking an important phase in plant protection.*

An organized fire-fighting brigade is an effective tool against plant fires and there is nothing that pleases me more than to respond to an industrial alarm and find the fire put out or under control. It has come to my direct attention frequently, however, that many plants are forgetting a very important rule in fire protection: *Upon discovering a fire, call the fire department first, then try to put the fire out while awaiting professional help.* This is a point we have preached a great number of times, and yet it is one often ignored. Permit me to illustrate.

One of Cleveland's worst industrial fires occurred in the plant of the National Smelting Company, on July 27, 1944, with an estimated loss of over $200,000. One-third of the main building was destroyed, as was a two-story annex and an adjoining one-story building.

The fire was discovered by Lee Hall, an employee who had gone for a drink of water at a fountain located next to the men's room. He yelled "Fire!" and several men came running to the scene. The *local* plant alarm was sounded and a runner dispatched for the superintendent. A foreman ran to the spot, saw the fire, and went after the portable fire equipment.

The confusion started when the apparatus failed to function. The fire brigade used flux and sand in a futile attempt to put the fire out. Failing in this, a line of 2½" hose was brought to the fire from one end of the building. The fire was spreading. A fire Alarm box only 25 feet from the fire was ignored.

In the confusion, the superintendent stopped the men from using the hose which had been brought up. The men then took the line by a different route into the factory office which had a window in the wall opposite the fire. By this time the fire had spread to the office and the men attempted to stop the fire at this point. The intensity of the heat grew to such proportions that the men were forced to abandon their efforts. The fire was now completely out of control and the brigade was thrown into complete confusion.

The superintendent finally, then, gave the order to call the city fire department. The fire alarm box was still ignored or forgotten and a telephone was used to summon aid. Two companies responded, instead of the three which would have responded if the alarm box had been pulled.

This is a perfect example of a delayed alarm and what happens when a little knowledge becomes very dangerous to plant protection. Had the alarm been turned in immediately upon discovery of the fire instead of at least fifteen minutes later, the fire department could have helped the plant fire brigade in holding the fire. *A trained brigade is first class insurance for plant protection provided the apparatus and professional fire-fighters of a city fire department are on the way to help* out, just in case . . .

When Is a Fire Door Not a Fire Door?

Good Fire Doors are an important part of any plant fire protection program—but they've got to be good . . .

The best fire-wall in the world is valueless if its openings are inadequately protected.

FIRE doors are essential to any industrial fire protection program. The man responsible for plant safety has many things to consider when selecting a fire door or when he is examining an existing one for its serviceability. Like a book, it is difficult to determine if a fire door is a good one by merely examining its cover. The nature of a fire door does not permit inspection of its internal construction. The fire safety man in choosing a door can be fairly certain of its fire resisting qualities only if he knows that models of the same door have been tested in situations similar to those which might arise in his plant. If the door has been tested, approved and stamped by such an organization as the Underwriters Laboratory, much of the doubt concerning the fire door's effectiveness is removed from the mind of the safety man.

In any selection, the first thing to consider is the special hazards to which the door might be subjected. The construction of the door must be equal to resisting the passage of fire of any expectable intensity, involving, for example, specially hazardous places such as a spray room, paint storage room or a room containing molten saltbaths. If each door could be exposed to a test fire of the type to be expected, and its fire-resistant qualities established prior to its installation, all hazard and doubt would be removed for the safety man.

However, the cost of this procedure would be prohibitive and impractical since exposure to fire of the intensity required for testing purposes always leaves the door unsuitable for further use. As previously stated, the only satisfaction coming to the safety man is to assure himself that an exact model of his fire door has been tested and has been approved.

In addition to selecting the proper fire door for the proper hazard, the plant safety man has other factors to take into consideration that are equally as important as choosing the correct fire door.

Closing Device

The National Fire Protection Association in reporting the fires between January 1 and April 14, 1947 reported a million dollar property loss as the result of failure to close manually operated fire doors. The natural human reaction to evacuate a building in the face of a rapidly spreading fire without stopping to take precautions to save property should be recognized by the man responsible for plant protection. There is a necessity for automatic closing devices. To rely on manually operated doors is to rely on human frailty. The best fire door in the world will not stop a fire if it is not

This is a fire door being tested by the Underwriters' Laboratories, Inc., in Chicago. Besides the door, the frame and sill are also being subjected to the severe heat of the testing furnace. Note combustible material over inspector's head placed at standard distances from the hot door as part of test.

in place. The hardware of the automatic closing device must be sound and of approved design and material. This is also true of the hardware and the anchors which hold the fire door in its place. They must be capable of equal resistance to fire. The best fire door ever constructed would not be a fire door if it fell out of the opening as a result of sub-standard installation.

Frame and Sill

In addition to making sure that the fire door which is installed is designed to resist the passage of fire to be expected in the particular situation for the required length of time, it is also important to determine if the frame and sill are equally resistant to the passage of fire.

The following is a direct quotation from the records of a fire as published by the NFPA.

"The fire by-passed the non-standard fire doors and traveled up unprotected verticle openings to ignite the large quantities of combustible contents and to destroy much valuable machinery."

This particular case involves a sub-standard fire door, but even if it were an approved, standard one, the same results would have occurred if the frame and sill were of inferior fire resistant quality.

Since fire doors furnished for use cannot be subjected to individual tests a factory inspection by qualified personnel should be insisted upon by the person responsible for fire safety in the plant. Because many fire doors are delivered without hardware, closing devices or frames, the safety man must be very careful in choosing accessories to satisfy himself that they are not of sub-standard design or quality.

If the fire door can resist the passage of flame expected for a required length of time—if the hardware holding the door in place is sound—if sills and frames are as resistant to fire as the fire door itself, AND—if the door is equipped with automatic closing devices—then you have a GOOD fire door.

SAFETY ENGINEER AVAILABLE

1. Worker safety educating.
2. Industrial safety planning.
3. Accident and injury analysis.
4. Accident prevention-work methods coordination.
5. Program and inspection development.
6. Accident cause and cost reduction.
7. Packaged into one safety engineer.

Box 732

Can Frame You!

Now Randolph Gives You ALL FIVE Fire Fighting Essentials

1. EASE—One-hand operation, from bracket to fire. Randolph "4" means panic-proof protection

2. SPEED—Tests prove Randolph trigger-touch "10" stops 2-gallon gasoline fire in 10 seconds

3. SAFETY—Randolph CO^2 will not conduct electricity. And it's non-toxic . . . there's no danger from any poisonous fumes

4. NEATNESS—No mess or stain . . . no water or chemical damage with a new Randolph CO^2 trigger-touch extinguisher

5. EFFICIENCY—Randolph is ready for action under all temperatures. You have no freezing or deterioration to worry about

Randolph Extinguishers give you a truly great combination of features for full protection against most industrial fire hazards. Guard your property with the right extinguisher . . .

Send today for new free data guide to help you choose proper protection. *Approved by Underwriters' Laboratories.*

RANDOLPH
LABORATORIES, INC.
9 E. Kinzie Street Chicago 11, Illinois

WHO WATCHES... THE NIGHT WATCHMAN?

Plants Suffer from "Night Watchman Failure" When:

1 **Watchmen don't know sprinkler system operation.**

2 **They don't know location of fire alarm boxes.**

3 **They don't know telephone procedure.**

4 **They can't operate extinguishers.**

THE angry red glow of a burning industrial plant silhouetted against a midnight sky is a familar sight to the professional fireman. Each year millions of dollars worth of buildings, equipment and materials are last seen in billowing clouds of black smoke. These are the fires of the night—the fires that start with only a night watchman as witness.

This man holds one of the most important and responsible jobs in the fire prevention program of the industrial plant. If he is not trained to do his job well, plant safety is seriously jeopardized.

Last year a mill in Illinois, a warehouse in New Jersey and a dehydrating plant in Missouri burned completely to the ground. In all three cases the buildings were without automatic fire alarm systems and in all three cases *the man on duty didn't know what to do after discovering the blaze.* Two of the men spent considerable time attempting to extinguish the fires, and after finding the task impossible, turned in delayed alarms for help. The third man just didn't know how to turn in an alarm. These are but examples of the many fires which happen every year and are allowed to get out of control because of night watchman failure. *Those few minutes immediately after discovery are the important ones if the plant is to be saved from serious loss.*

Importance of Training

The placing of a man on duty as night watchman is merely the start of the safety engineer's job. The watchman must be trained well. To do this training job successfully, the following important points concerning plant safety should be made clear to him:

1—The Sprinkler System

One of the first things a watchman should do after coming on duty is to ascertain if the sprinkler system is on. Many costly fires on record are traceable to the fact that the sprinkler system had been turned off and forgotten. Beside being shown how to turn the system on, the night-watchman should also be instructed how to turn it off to prevent serious water damage after a fire has been extinguished.

2—The Alarm

Many industrial plants have automatic alarm systems in conjunction with their sprinkler systems. Pains should be taken, however, to see that the watchman knows how to turn in a fire alarm should the plant be without a valuable alarm system or should such system be inadvertently shut off during repair to the sprinkler system.

The reliable alarm box is the most effective means of getting help to the plant in a hurry. The watchman should not only be familiar with the location of the nearest box, but he should also be familiar with its operation. If he uses a street box, he should stand by the box until the first fire apparatus arrives so he can direct the firemen directly to the fire. If the box is inside a large plant, he should meet the firemen on their arrival.

3—The Telephone

Sometimes the telephone is the only convenient way of getting help. Many older persons still consider the telephone an awkward contraption to operate and many of them are unable to put through an emergency call. Here it is well to take nothing for granted while training the watchman. *Make sure he knows how to operate a telephone and that he knows the number of the local fire department.*

Regardless of what method is used to summon aid to a fire, the importance of first turning in the alarm before any attempt is made to put out a sizable fire should be strongly impressed upon the watchman. If he is able to put it out himself, after he has turned in the alarm, well and good; if he can't put it out, the fire department is on the way to help him. Many fires cause great loss and damage because efforts to put them out preceded the call for help.

4—Fire Extinguishers

Knowledge of the type, location and use of the various extinguishers in the plant is a "must" for every night watchman. Operating techniques of fire extinguishers should be learned before, not during a fire. Complete instructions should include actual demonstration of equipment. Available on the market are a series of metal signs for each type of fire extinguisher. They can be permanently posted by each unit. These signs incorporate certain visual aids for use and operation of equipment which are forceful and are easily understood.

Special Hazards

A watchman should be aware of the potential trouble spots in his plant. Rooms containing liquid salt baths and other hazardous locations should be pointed out to the watchman so he can keep his eyes open for trouble. Each special hazard in the plant involves special precautions which the watchman should know about. For instance, in the case of magnesium, the danger of water coming in contact with the baths should be fully explained.

The job of training a night watchman varies with the individual plant, but a few sessions with the local fire marshal are absolutely essential. Too often the indoctrination emphasis is entirely upon security from plant burglaries or vandalism. The watchman *can* be taught valuable fire prevention information designed to report dangerous housekeeping practices or hazardous storage of flammable liquids.

The former practice of relegating watchman jobs to feeble old employees as a reward for past usefulness is no longer profitable for management with millions of dollars at stake in structures and materials.

GOOD HOUSEKEEPING IS GOOD FIRE PREVENTION

Exposure to High Concentrations of Ammonia Due to Accident or Carelessness May BURN, BLIND, STRANGLE, KILL. Approved Type Safety Goggles and Suitable Protective Clothing Should Be Furnished All Workers Exposed To Ammonia Solutions.

CHARACTERISTICS OF AMMONIA

Name	Usual shipping container	Fire hazard	Storage	Fire fighting Phases	Remarks
Anhydrous ammonia NH_3.	Steel cylinders or steel tank cars (high pressure) conforming to I. C. C. specifications. I. C. C. requires a green warning label.	Gas density 0.60 (air =1). Not flammable in air except in comparatively high concentration, seldom encountered under practical conditions; low limit of the flammable or explosive range being about 15% to 16%, upper limit about 25% to 26% by volume (horizontal propagation). Presence of oil increases fire hazard.	Safeguard against mechanical injury and excessive heating of cylinders or tanks. Fire-resistant storage recommended. With combustibles, sprinklered storage recommended. Isolate from other chemicals, particularly chlorine, bromine, iodine, and mineral acids.	Soluble in water. Hose streams comparatively effective in removing the gas from the atmosphere.	Extensively employed as a refrigerant and in industry. If a pipe or joint breaks, the gas escapes into the air.

Name	FLASH POINT	IGNITION TEMP.		EXPLOSIVE LIMITS Percent by volume			Vapor density air=1	Boiling point Deg. F.
	Deg. F.	Deg. F.	Ref.	Lower	Upper	Ref.		
Anhydrous ammonia NH_3.	Gas	1204 1204 1436	..... 39 26	16.0 16.1 16.0 16.0	25 26.6 25 27	1.0 1.0 28.0 5.26	0.597	—28
Aqua ammonia.	Non - flammable, being a water solution.	.....	.....	.....	.....	.....	Properties vary, depending on strength.	

An important safety measure in the control of fire is good housekeeping. A clean place seldom burns.

AVERY large per cent of fires that have occurred are due to the total lack of interest in fire prevention on the part of too many people. Individual responsibility must replace the total lack of interest in the control of fire. It is important that more frequent and thorough inspections be made as a means of eliminating fire hazards. The workers in the plant, the foremen, the supervisors and all of top management must work hand in hand to do this important work.

The form to the right is one way Seagrams & Sons, Inc. are making sure that fire hazards at their plant are being eliminated.

Look this chart over — it might give you some good ideas for one of your own. Any effort made toward improving good housekeeping is an effort toward fire prevention in the plant!

SIMPLIFIED SANITATION RATING FORM FOR PLANT BUILDINGS

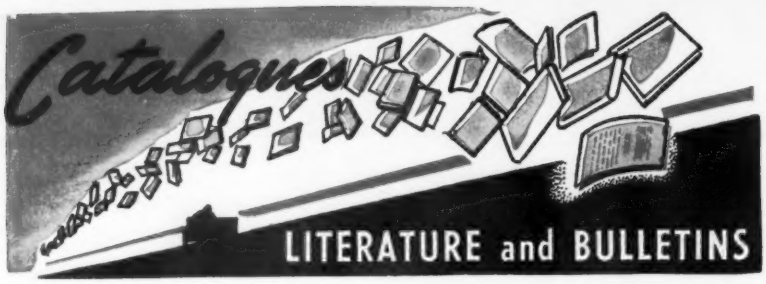
Plant..... Building..... Sanitation Level.....
(One form to be used for each building)

An excellent rating indicates no improvement can be made without a major change

COMPONENTS	RATING FACTORS		Total Possible Score	Actual Score
	Cleanliness and Order	General Repair		
FLOORS Storage Space Raw Materials Goods in Process Finished Goods	**POSSIBLE SCORE 30** Excellent 30 Good 25 Fair 15 Poor 5 Comments	**POSSIBLE SCORE 20** Excellent 20 Good 15 Fair 10 Poor 5 Comments	50	
ROOFS, WALLS WINDOWS CEILINGS and OVERHEAD FIXTURES	**POSSIBLE SCORE 15** Excellent 15 Good 12 Fair 7 Poor 3 Comments	**POSSIBLE SCORE 10** Excellent 10 Good 8 Fair 5 Poor 2 Comments	25	
EQUIPMENT Operating Furniture	**POSSIBLE SCORE 15** Excellent 15 Good 12 Fair 7 Poor 3 Comments	**POSSIBLE SCORE 10** Excellent 10 Good 8 Fair 5 Poor 2 Comments	25	

Comments: .....

Rated By:..... Date..... Time.....



The publications featured on these pages were written by experts. They may be obtained without charge. To obtain these use the postcard bound into this issue.

FL-619—Protective Clothing . . . A 20-page catalog prepared by the Olympic Glove Company contains illustrations and descriptions of safety clothing manufactured by this company. Many items from finger guards to complete asbestos fire-fighting suits are included in the listing.

FL-620—Toilet Compartments . . . Available from the Sanymetal Products Co., Inc., is a new 26-page catalog containing latest structural and design improvements of toilet compartments, shower stalls, shower cabinets and wainscoting. For engineers and management officials planning new building or remodeling work. Ask for catalog 85.

FL-621—Caustic Soda Book . . . An elaborate three-color, 72-page text on caustic soda has been prepared by the Columbia Chemical Division of the Pittsburgh Plate Glass Company. Containing many useful graphs, charts and diagrams, it includes a section devoted to the best procedure for unloading, handling and storing of this chemical. Write for Form A-100.

FL-622—Fire Hoses . . . A new folder from Hewitt Rubber contains information and illustrations of three kinds of fire hose. They are designed for purposes which include use in mills, warehouses, chemical plants and other industrial installations.

FL-623—Floor Cleaner . . . The Canfield Oil Company has produced a four-page circular which describes the fire-proof, skid-proof, fire-smothering and oil-soaking characteristics of their product, Oil-Spunj.

FL-624—Mobiladder . . . Information is available which gives specifications of Fieroh's Mobiladder. Manufacturer R. W. Fieroh states they can easily be moved about a working area by the workman who remains atop the ladder.

FL-625—Steel Gratings . . . Folder from Blaw-Knox Company describes their steel floor gratings and stair treads which are electroforged into one-piece structures. Their special construction features make them structurally safe and reduce the chances of slipping or skidding.

FL-626—Rat Control . . . Now available from Walsh Laboratories, Inc., is a folder concerning a new rat killer caller "Rodan." The compound contains ANTU (Alpha-Naphthyl-Thiourea) said to be a very effective chemical discovery of the war, now manufactured by Du Pont.

FL-627—Versatile Bulletin Board . . . A. C. Davenport & Son, Inc., has prepared a new circular which describes an Illuminated Safety Director Display. Any message can be easily set up and inserted in the slide-out letter panel which is surmounted by two large red and green "Safety First" circles flashing on and off like traffic lights.

FL-628—Ventilation Device . . . A 44-page booklet by Du Pont describes their product, "Ventube," which is used for auxiliary ventilation to help protect the lives of men working in mines, tunnel construction, pits, etc. The tube is flexible enough to bend around the sharpest corner without obstructing passage of air.

FL-629—Leak Detector . . . The Safety First Supply Company has available two folders which describe an instrument used to detect leaks in underground or concealed pipes and an instrument used to determine location, course and depths of pipes and cables. This latter instrument is also said to detect buried manhole covers, gates, etc.

FL-630—Riggers' Hand Book . . . The Broderick & Bascom Rope Company, manufacturer of wire rope, has prepared a 128-page "Riggers' Hand Book." This information manual includes applications and safe working loads of braided slings, standard slings and wire rope as well as many drawings showing uses of sockets, links, rings and other fittings. Specifications and correct designations of sizes and lengths are also included in this complete work.

FL-631—Fire Extinguisher . . . The Fyr-Fighter Company has prepared a folder describing a new "Instant" Loaded Stream Extinguisher, said to use an entirely new liquid which kills fire in one-third the usual time.

FL-632—Women's Uniforms . . . The E. R. Moore Company have prepared a folder which includes descriptions and material samples of their washable uniforms for women. The fabrics are all cotton, easy to launder, color fast and Sanforized.

FL-633—Welders Equipment . . . An eleven page booklet is available from the John Tillman & Company Manufacturers describing their line of protective leather supplies for welders. Illustrations, descriptive copy and list prices are included in this complete catalogue.

FL-634—Escape Ladder . . . The American Home Fire Safety Appliance Company have produced a booklet describing their Safety Assurance Ladder. Designed to support a thousand pounds, it folds into a small metal case anchored by the chosen escape window. Practical up to the third floor.

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FOR ECONOMY *TOO!* **LOWEST OPERATING COST OF ANY BREATHING EQUIPMENT.**

SLING-PAK, 6000-B1 OR B3
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✓ READY INSTANTLY•

FOR INDUSTRIAL EMERGENCIES
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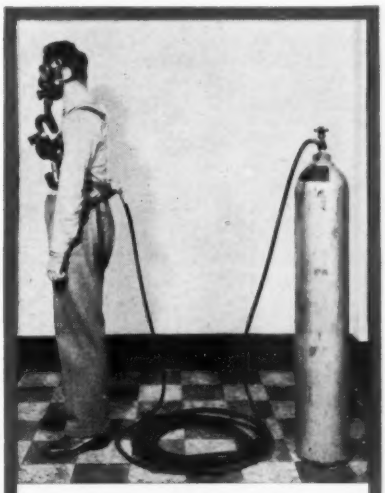
For industrial breathing emergencies it's tops; for routine inspection or work in areas containing toxic gases, smoke, fumes, excess heat, or oxygen deficiencies it provides safety, confidence and comfort to your personnel. It's always immediately ready!



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✓ COOL, FRESH AIR

The Scott Air-Pak delivers pure breathing air—not oxygen, because pure cool air gives comfort and confidence to the user; and because the use of oxygen adds unnecessary hazards, especially in the presence of petroleum vapors.

✓ *ONLY* THE SCOTT AIR-PAK

Can be used in any temperature from 20° below zero to oven heat.

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THE SCOTT DEMAND-TYPE RESPIRATOR

WILL INCREASE WORKER EFFICIENCY

Because its "demand" air flow is truly comfortable;—no constant flow to dry out nasal and facial tissues. No breathing "against" incoming air pressure, to increase fatigue. Can be used with any half or full-face mask.

WILL SAVE ⅔ OF YOUR AIR COST;

If you now use airline respirators, because The Scott Respirator supplies air only on the inhalation of its wearer;—not a constant wasteful flow. Simply connected to plant air lines, or to commercial cylinders of breathing air.

THE PERFECT RESPIRATOR FOR WELDING, SPRAYING, SAND BLASTING, OR OTHER OPERATIONS IN OBJECTIONABLE, DUSTY, OR IRRITATING ATMOSPHERES.

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SCOTT AVIATION CORP.

229 ERIE STREET, LANCASTER, NEW YORK

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Steel-Grip Work Handlers don't stop with safety. To their full measure of protection is added full measure of accurate design, proper cut, careful manufacture. Thus the worker learns he can work **swiftly** with safety . . . **easily** with safety . . . **tirelessly** with safety. In this confidence he develops rhythm and speed which means more production. Steel-Grip Work Handlers are the result of 35 years of contact with the handling problems of every industry. And men who know Steel-Grip insist on the genuine and refuse all substitutes. Whatever you need, you will find it in the Steel-Grip line.

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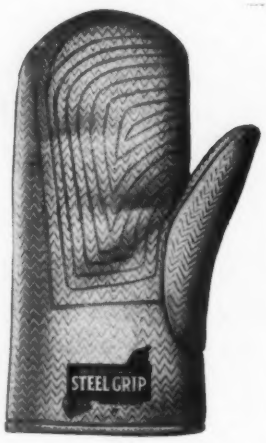

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Flexible leather face, elastic web back, Ideal for burring, sanding, buffing, coil-winding soldering, assembling, etc. Descriptive folder free.

A-79

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